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Terms	Documents
glutamine adj synthetase.ab. and transformation.ab. and plant.ab.	0

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<u>L6</u>	glutamine adj synthetase.ab. and transformation.ab. and plant.ab.	0	<u>L6</u>
<u>L5</u>	glutamine adj synthetase.ab. and transformation and plant.ab.	7	<u>L5</u>
<u>L4</u>	glutamine adj synthetase and transformation and plant.ab.	429	<u>L4</u>
<u>L3</u>	glutamine adj synthetase and transformation and plant	558	<u>L3</u>
<u>L2</u>	glutamine adj synthetase and transformation	681	<u>L2</u>
<u>L1</u>	glutamine adj synthetase and 35s and npt and pbin	0	<u>L1</u>

END OF SEARCH HISTORY

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Terms	Documents
populus adj tremula	7

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Database: IBM Technical Disclosure Bulletins

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<u>L4</u>	populus adj tremula	7	<u>L4</u>
<u>L3</u>	populus adj tremula and populus adj alba	0	<u>L3</u>
<u>L2</u>	inra adj 717	0	<u>L2</u>
<u>L1</u>	inra adj 717 and populus and transformation	0	<u>L1</u>

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<sup>2</sup> *Journal of the Royal Society of New*

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NEWS	5	Feb 10 Access via Tymnet and SprintNet Eliminated Effective 3/31/02
NEWS	6	Mar 01 Gene Names now available in BIOSIS
NEWS	7	Mar 01 TOXNET no longer available
NEWS	8	Mar 01 CTOUCHMO no longer available
NEWS	9	Mar 01 US Patents Serial Priorities; searched with P in CA/CAPLUS and CAPATENT
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NEWS	16	Apr 01 Records from IFI.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS	17	Apr 01 BIOSIS Gene Names now available in TOXCENTER
NEWS	18	Apr 01 Federal Research in Progress (FERIP) now available
NEWS	19	Jun 04 New e-mail delivery for search results now available
NEWS	20	Jun 17 INILINE Helped
NEWS	21	Jun 17 PCTFULL has been released
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ENTRY

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SESSION

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FILE 'CAPLUS' ENTERED AT 13:12:02 ON 21 JUN 2001

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=> s expression(w)cassette and glutamine(w)synthetase and transform?

L1            3 EXPRESSION(W) CASSETTE AND GLUTAMINE(W) SYNTHETASE AND TRANSFORM  
?

=> d 11 1-3

L1    ANSWER 1 (F) : CAPLUS COPYRIGHT 1992 ACS

AN 2000:133814 CAPLUS

DN 132:162037

TI Poplar trees containing a constitutively expressed pine **glutamine synthetase** transgene for improved nitrogen metabolism

IN Kirby, Edward G.; Canovas Flores, Francisco; Gallardo Alba, Fernando

PA Rutgers, the State University of New Jersey, USA

SO PCT Int. Appl., 51 pp.

CODEN: PIKXD2

DT Patent

LA English

FAN.CNT .

	PATENT NO.	TYPE	DATE	APPLICATION NO.	DATE
PI	WO 2000013726	A1	20000204	WD 1999-US18267	19990811
	W:	AE, AL, AM, AT, AU, AR, BA, BB, BG, BE, BY, CA, CH, CN, CR, CU, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MR, MU, MN, MN, MO, NL, RU, PT, RO, EU, SD, SE, SG, SI, SK, SL, TC, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, BT, BG, MU, RU, T, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, CW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GE, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, SI, TM, GA, GN, TW, ML, MR, NE, SN, TD, TG			
	AJ 1999-57734	A1	20000306	AJ 1999-57734	19990811
PRAT	US 1998-96031P	P	19980111		
	WO 1999-111867	W	19990311		

PR.CNT 3        THERE ARE 3 CITING REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1    ANSWER 2 (F) : CAPLUS COPYRIGHT 2002 ACS

AN 1391:166740 CAPLUS

DN 130:210134

TI Engineering fumonosin mycotoxin resistance with *Saccharomyces* DNA sequences encoding an ABC transporter

IN Oseid, Linda M.; Boss, Wendy F.; Mao, Cungui

PA North Carolina State University, USA

SO PCT Int. Appl., 51 pp.

CODEN: PIKXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO. KING DATE APPLICATION NO. DATE

PI WO 9616514 A1 19960301 WO 1998-US17546 19980325  
W: AL, AM, AT, AU, AZ, BA, BE, BG, BR, BY, CA, CH, CN, CU, CZ, DE,  
DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, IL, IN, JP, KE, KG,  
KE, KR, KZ, LC, MK, LP, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX,  
NL, NZ, PL, PT, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,  
UA, UG, US, UZ, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GR, HI, KE, LS, MW, SB, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,  
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SF, BJ, CF, CG, CI,  
CM, DA, GN, GW, ML, NE, SN, TD, TG

AU 983919 A1 19980306 AU 1998-89190 19980325

PRAI US 1997-515618 P 19980816  
WO 1998-US17546 W 19980815

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2002 ACS

AN 1998:6103-0 CAPLUS

DN 129:2/151

TI Vectors and methods for site-specific integration of transforming  
DNA in mammalian cells

IN Peff, Michael E.; Barnett, Richard Spence; McLachlan, Karen Retta  
PA IDEC Pharmaceuticals Corp., USA

SO PCT Int. Appl., 114 pp.

CODEN: PIXXED

DT Patent

LA English

FAN.CNT 2

PATENT NO. KING DATE APPLICATION NO. DATE

PI WO 9641648 A1 19960324 WO 1998-US3935 19980309  
W: AL, AM, AT, AU, AZ, BA, BE, BG, BR, BY, CA, CH, CN, CU, CZ, DE,  
DK, EE, ES, FI, GB, GE, GH, GM, HW, IL, IN, JP, KE, KG,  
KE, KR, KZ, LC, LF, LS, LT, LU, LV, MD, MG, MN, MW, MX,  
NL, NZ, PL, PT, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,  
UA, UG, UG, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GR, FM, KE, IS, MW, SI, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI,  
FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SF, BJ, CF, CG, CI, CM,  
CA, CN, ML, MR, NE, SN, TD, TG  
US 5700698 A 19981113 US 1998-819866 19980314  
US 5708144 A 19981207 US 1998-83715 19980213  
AU 6164419 A1 19981112 AU 1998-64435 19980109  
AU 737151 B2 19980319 EP 1998-910109 19980309  
EP 981637 A1 19980319 EP 1998-910109 19980309  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE, MC, PT,  
IE, FI  
BR 9508554 A 19980113 BR 1998-9534 19980309  
JP 2001516231 T2 20010925 JP 1998-640639 19980309  
NO 9004347 A 19980109 NO 1999-4397 19990110  
PRAI US 1997-519596 A 19980114  
US 1998-83715 A 19980213  
WO 1998-US3935 W 19980309

=> s expression(w) cassette and glutamine(w) synthetase and plant  
L2 2 EXPRESSION(W) CASSETTE AND GLUTAMINE(W) SYNTHETASE AND PLANT

=> d 12 1-2

L1 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS  
AN 1998:6103-0 CAPLUS

DN 133:162039  
TI Poplar trees containing a constitutively expressed pine **glutamine synthetase** transgene for improved nitrogen metabolism  
IN Kirby, Edward G.; Canovas Ramps, Francisco; Gallardo Alba, Fernando  
PA Rutgers, the State University of New Jersey, USA  
PO PCT Int. Appl., 50 pp.

CODEN: PIXX02

DT Patent  
LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 20000034723	A1	20-06-24	WO 1999-US14267	19990811
W: AR, AL, AM, AT, AU, BG, BA, BB, BG, BF, BY, CA, CH, CN, CR, CU, CN, DE, DF, DM, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, PP, FR, KZ, LC, LF, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NC, NZ, PL, PT, RG, RU, SD, SE, SG, SI, SK, SL, TC, TM, TR, TI, UA, UG, US, US, VN, YU, ZA, ZW, AM, AZ, BY, KG, KE, ML, RU, TJ, TM RW: GH, CM, KE, MS, MW, CL, SL, SZ, US, TZ, AT, BE, CH, CY, DE, DK, ES, FI, PP, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, TM, GA, GN, GW, MU, MR, NE, SN, TD, TG				
AU 9997734	A1	21-06-24	AU 1999-57734	19990811

PRAI US 1998-9603LP P 1998011  
WO 1999-031867 W 1998011

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2001 ACS  
AN 1999:166745 CAPLUS

DN 133:219131

TI Engineering filamentous mycotoxin resistance with *Saccharomyces* DNA sequences encoding an ABC transporter  
IN Obeid, Lina M.; Bass, Wendy F.; Mao, Junqiu  
PA North Carolina State University, USA  
SO PCT Int. Appl., 51 pp.

CODEN: PIXX02

DT Patent  
LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9910514	A1	1999104	WO 1998-US17546	19980125
W: AL, AM, AT, AU, BE, BA, BB, BG, FF, BY, CA, CH, CN, CU, CZ, DE, ES, FI, GB, GE, GH, IM, HE, HU, ID, IL, IS, JP, KE, KG, KE, PP, KZ, LC, LF, IS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NG, NT, PL, PT, RO, FU, SD, SE, SG, SI, SK, SL, TM, TR, TT, UA, VG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, CM, KE, IS, MW, SD, SZ, US, TW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, NC, NL, PT, SE, BF, BJ, CF, CG, CI, MN, GA, GN, GW, NL, NR, NE, SN, TD, TG				
AU 9989146	A1	1-09-01-16	AU 1998-89190	19980325

PRAI US 1998-0153LP P 1-07-01-26  
AU 1998-01116 W 1-08-01-25

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s planr(w)-expression(w) cassette and glutamine(w) synthetase  
L3 ) PLANR(W) EXPRESSION(W) CASSETTE AND GLUTAMINE(W) SYNTHETASE

=> s plant(w)-expression(w) cassette and glutamine(w) synthetase  
L4 ) PLANT(W) EXPRESSION(W) CASSETTE AND GLUTAMINE(W) SYNTHETASE

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FULL ESTIMATED COST

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ENTRY SESSION  
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=> s plant(w)expression(w)cassette and glutamine and transform?  
LS 1 PLANT(W) EXPRESSION(W) CASSETTE AND GLUTAMINE AND TRANSFORM?

=> d 15 1

LS ANSWER 1 OF 1 CPLUS COPYRIGHT 2002 ACS  
AN 2000:13316" CPLUS  
DN 132:176616  
TI Expression of chitin synthase and chitin deacetylase genes in plants to  
alter the cell wall for industrial uses and improved disease resistance  
IN Bhugra, Kamarpal S.; Anderson, Paul C.; Nichols, Scott E.  
PA Pioneer Hi-Bred International, Inc., USA  
SO PCT Int. Appl., 51 pp.  
CODEN: PIKK 2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000019719	A2	200003124	WO 1999-US18450	19990813
	WO 2000019723	A3	200003111		
		W:	AE, AL, AM, AT, AZ, BA, BE, BG, BR, BY, CA, CH, CN, CF, CU, CZ, DE, DF, DK, DM, FE, EE, ES, FI, FI, GB, GD, GE, GH, GI, HR, HU, ID, IL, IM, IS, JE, KE, KG, KP, KR, KZ, LC, LF, LR, LS, LT, LU, LV, MD, MG, MK, MU, MW, MX, NO, NZ, PL, PT, RC, RU, SD, SE, SG, SI, SK, SL, TM, TR, IT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, MU, MO, FU, TJ, TM		
		RW:	GH, GI, KE, LS, MW, SD, SL, SZ, WG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, FF, BJ, CF, CG, GT, CM, GA, GN, GW, ML, MR, NE, SN, TD, CG		
	AU 9955610	A1	20000306	AU 1999-55610	19990813
PRAT	US 1999-965642	P	19990314		
	WO 1999-US18450	W	19990813		

=> S plant(w)expression(w)cassette and glutamine(w)synthase and transform?  
L6 0 PLANT(W) EXPRESSION(W) CASSETTE AND GLUTAMINE(W) SYNTHASE AND  
TRANSFORM?

=> S plant(w)expression(w)cassette and transform?  
L7 0 PLANT(W) EXPRESSION(W) CASSETTE AND TRANSFORM?

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PROCESSING COMPLETED FOR L7  
L8 16 DUPLICATE REMOVE L7 (16 DUPLICATES REMOVED)

=> d 18 1-29

L8 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS  
AN 2002:331362 CAPLUS  
DN 136:36451  
TI Expression cassettes using the mybII promoter of Arabidopsis for  
tissue-specific expression of foreign genes in the embryonic epidermis and  
flower of plants  
IN Reindl, Andreas; Bischoff, Friedrich; Tonelli, Chiara; Petroni, Katia  
PA Basf Plant Science Gmbh, Germany  
SO PCT Int. App., 64 pp.  
CODEN: PIKMDX

DT Patent  
LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002034924	A2	20020502	WO 2001-EP12444	20011026
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DF, DM, DZ, EC, EE, ES, FI, GB, GE, GH, HK, HR, HU, ID, IL, IN, IS, JP, KP, KR, KZ, LC, LR, LS, LT, LU, LV, MA, MG, MN, MM, MR, MZ, NO, NZ, PH, PL, PT, RO, RU, SE, SG, SI, SP, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZK, AM, AT, BY, KG, KZ, MD, RU, TJ, TM P:			
FW:	CH, CM, FE, LS, MW, MS, SD, SL, SZ, TZ, UG, SW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GE, IE, IT, LU, MC, NL, PT, SE, TR, BF, EG, GF, CG, CI, CM, GA, GN, GU, GW, ML, MR, NE, SN, TD, TG			
DE 10053519	A1	20020512	DE 2000-10053519	20001027
PRAI	DE 2000-10053519	A	20001027	

L8 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS

AN 2002:317558 CAPLUS

DN 136:8037

TI A caryopsis-specific promoter of wheat for use in the tissue-specific  
expression of foreign genes in cereal  
IN Sprunk, Stepanie; Kluth, Antje; Becker, Dirk; Luetticke, Stephanic;  
Loerke, Bernd  
PA Aventis CropScience GmbH, Germany  
SO PCT Int. App., 51 pp.  
CODEN: PIKMDX

DT Patent  
LA German

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002002785	A1	20020110	WO 2001-EP7592	20010703
W:	AE, AG, AL, AM, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CN, CO, CR, CU, CZ, DE, DM, DZ, EC, EE, GB, GE, HR, HU, ID, IL, IN, IS, JP, KG, KP, KR, KZ, LC, LR, LT, LV, MA, MD, MG, MK, MN, MX, NO, NZ,			

PL, RO, RU, SG, SI, SK, TJ, TM, TT, UA, US, UZ, VN, YU, ZA, AM,  
 AZ, BY, KG, KZ, MD, PU, TJ, TM  
 RW: GH, GM, KE, LS, MW, NZ, SD, SL, SZ, TZ, CG, ZW, AT, BE, CH, CY,  
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, HR,  
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
 DE 10032379 A1 20020117 DE 2000-10032379 10032379  
 DE 10041861 A1 20020514 DE 2000-10041861 20041861  
 PRAI DE 2000-10032379 A 20000706  
 DE 2000-10041861 A 20010826  
 RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 29 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
 1  
 AN 2001:186123 BIOSIS  
 DN PREV200100186123  
 TI Plant-derived measles virus hemagglutinin protein induces neutralizing  
 antibodies in mice.  
 AU Huang, Z.; Dry, I.; Webster, S.; Strugnell, R.; Wesselingh, S. (1)  
 CS (1) Infectious Diseases Unit, Alfred Hospital, Monash University,  
 Commercial Road, Prahran, VIC, 3181; s.wesselingh@alfred.org.au Australia  
 SO Vaccine, 18 (1-brdary, 2000) Vol. 19, No. 15-16, pp. 2163-2171. print.  
 ISSN: 0264-410X.  
 DT Article  
 LA English  
 SL English

L8 ANSWER 4 OF 29 CAPLUS COPYRIGHT 2002 ACS  
 AN 2000:861861 CAPLUS  
 DN 134:26074  
 TI Maize R35 promoter and methods for its use in plant  
 transformation  
 IN McElroy, David; Orozco, Emil M., Jr.; Kriz, Alan L.; Griffor, Matt  
 PA Dekalb Genetics Corporation, USA  
 SO PCT Int. Appl., 182 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English

RE.CNT 1  
 PATENT NO. FIND DATE APPLICATION NO. DATE  
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 PI WO 2000013474 A1 20001207 WO 2000-US13199 20000512  
 K: AE, AG, AL, AM, AR, AU, AZ, BA, BE, BG, BR, BY, CA, CH, CN, CR,  
 CU, CZ, DE, DK, DM, EC, EE, ES, FI, GB, GD, GE, GF, GM, HR, HU,  
 IS, IL, IN, IS, JP, PE, PG, PF, KR, KE, LC, LK, LF, LS, LT, LU,  
 LV, MA, ML, MG, MM, MN, MW, MX, NC, NZ, PL, PT, RO, RU, SD, SE,  
 SG, SI, SP, SL, TJ, TM, TT, TZ, UA, UG, US, UZ, VN, YU, ZA,  
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 RW: GH, GM, KE, LS, MW, NZ, SD, SL, SZ, TZ, CG, ZW, AT, BE, CH, CY, DE,  
 UK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,  
 CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
 US 6232516 BI 20010515 US 1999-312038 19990514  
 PRAI US 1999-312038 A1 19990514  
 RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 5 OF 19 CAPLUS COPYRIGHT 2002 ACS  
 AN 2000:824430 CAPLUS  
 DN 133:359796  
 TI Maize R35 promoter and methods for its use in plant  
 transformation  
 IN McElroy, David; Orozco, Emil M., Jr.; Laccetti, Lucille B.  
 PA Dekalb Genetics Corporation, USA  
 SO PCT Int. Appl., 173 pp.

CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000070068	A1	20001123	WO 2000-US13304	20000512
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DE, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, IS, IL, IN, IS, JP, KE, KG, KP, KR, LZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MW, MR, MU, MX, NO, NL, PL, PT, RO, RU, SD, SE, SI, SI, SK, SL, TG, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, BG, KZ, ME, RU, TJ, TM	RW: GH, GM, KH, LF, MW, SI, SL, SZ, TC, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GE, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, OM, ML, MR, NE, SN, TD, TG			
US 6207679	B1	20010327	US 1699-312066	19990514
EP 1179079	A1	20010212	EP 300-930136	20000512
R: AT, BE, CH, DE, DM, EL, FR, GH, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI US 1999-112266	A1	19990514		
WO 2000-US13304	W	20000512		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 6 IF 29 CAPLUS COPYRIGHT 2002 ACS  
AN 2000:824419 CAPLUS  
DN 133:359794  
TI The rice actin 2 promoter and intron and their use for plant  
transformation  
IN McElroy, David; Wu, Ray  
PA Dekalb Genetics Corporation, USA; Cornell Research Foundation, Inc.  
SO PCT Int. App., 180 ps.  
CODEN: PIXXER

DT Patent  
LA English  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000070068	A1	20001123	WO 2000-US13303	20000512
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DE, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, IS, IL, IN, IS, JP, KE, KG, KP, KR, LZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MW, MR, MU, MX, NO, NL, PL, PT, RO, RU, SD, SE, SI, SI, SK, SL, TG, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, BG, KZ, ME, RU, TJ, TM	RW: GH, GM, KH, LF, MW, SI, SL, SZ, TC, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GE, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, OM, ML, MR, NE, SN, TD, TG			
EP 1179079	A1	20010213	EP 300-942636	20000512
R: AT, BE, DE, DK, EL, FR, GH, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI US 1999-112266	A1	19990514		
WO 2000-US13303	W	20000512		

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 7 IF 29 CAPLUS COPYRIGHT 2002 ACS  
AN 2000:824418 CAPLUS  
DN 133:359744  
TI Maize RSB14 promoter and methods for its use in plant  
transformation  
IN McElroy, David; Irozco, Emil M., Jr.; Laccetti, Lucille B.  
PA Dekalb Genetics Corporation, USA

PCT Int. Appl., 137 pp.

CODEN: PIKXD1

PT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 20000 0065	A1	20001123	WO 2000-US13301	20000512
W: AF, AR, AU, AM, AT, AU, AZ, BA, BE, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, IL, IN, IS, JP, KE, KG, KP, KK, LC, LK, LR, LS, LT, LU, LV, MA, MI, MG, MF, MN, MW, MX, NG, NL, PL, PT, RO, RU, SD, SE, SL, SI, SF, SL, TC, TM, TR, TT, TZ, UA, UG, US, UY, VN, YU, ZA, ZW, AM, BY, EG, FG, MI, RU, TJ, TM	RW: BH, BM, KE, LS, IE, SD, SI, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GR, GE, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, SI, SU, CH, GA, GN, GU, MI, ME, NE, SN, TD, TG			
US 6194657	B1	20010107	US 1999-312185	19990514
EP 1179031	A1	20020113	EP 000-937556	20000512
P: AU, BE, CH, DE, DK, EE, FR, GR, GE, IE, IT, LU, MC, NL, SE, MC, PT, SI, SU, CH, GA, GN, GU, MI, ME, NE, SN, TD, TG				
PRAI US 1999-32281	A1	19990104		
WO 2000-US13301	W	20000512		
RE.CNT 4	THESE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD			
	ALL CITATIONS AVAILABLE IN THE RE FORMAT			

L8 ANSWER 8 OF 29 CAPLUS COPYRIGHT 2002 ACS

AN 2000:133067 CAPLUS

DN 132:176616

TI Expression of chitin synthase and chitin deacetylase genes in plants to alter the cell wall for industrial uses and improved disease resistance

IN Dnugga, Ranwarpal S.; Anderson, Paul C.; Nicols, Scott E.

PA Pioneer Hi-Bred International, Inc., USA

SO PCT Int. Appl., 51 pp.

CODEN: PIKXD1

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 20000 972	A2	20000424	WO 1999-US18450	19990813
WO 20000 972	A3	20000411		
W: AE, AI, AM, AT, AU, AZ, BA, BE, BG, FR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, EM, FR, HE, IS, FI, GB, GD, GE, HU, IL, IN, IR, IS, IT, LI, IN, IS, JP, KE, KG, KP, KR, LZ, LC, LK, LR, LS, LT, LU, LV, MW, MG, MK, MU, MW, IX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SH, SE, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, SA, CW, AM, AU, BY, EG, FG, MD, RU, TJ, TM RW: BH, BM, KE, LS, MW, SD, SL, SZ, PG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GE, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, SI, SU, CH, GA, GN, GU, MI, MR, NE, SN, TD, TG				
AU 9955610	A1	20000306	AU 1999-55610	19990813
PRAI US 1999-16554P	P	19980514		
WO 1999-US18450	W	19990813		

L8 ANSWER 9 OF 29 CAPLUS COPYRIGHT 2002 ACS

AN 2000:98106 CAPLUS

DN 132:13319

TI Use of scaffold attachment region (SAR) for improved plant transformation

IN Iann, Michael E.; Hall, Gerald E., Jr.

PA Mycogen Plant Science, Inc., USA

SO PCT Int. Appl., 38 pp.

CODEN: PIKXD1

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000/006757	A1	20000210	WO 1999-US7598	19990406
WI: AE, AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LQ, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, UZ, VN, YU, ZA, AM, AZ, BY, EG, KZ, MD, RU, TJ, TM FW: CH, CN, KE, LS, MA, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SP, BJ, CF, CG, CI, CM, GA, GN, GU, ML, MR, NE, SN, TD, TG				
AU 993476	A1	20000221	AU 1999-34763	19990406
PRAI US 1998-117080	A	19980731		
WO 1999-US7598	W	19990406		

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWERP 10 OF 19 CAPLUS COPYRIGHT 2002 ACS

AN 2000:4991-1 CAPLUS

DN 133:262321

TI Coat protein genes of c strains of cucumber mosaic virus for the preparation of virus-resistant plants

IN Boesche, Maury L.; McMaster, Russell J.; Tricoli, David M.; Reynolds, John F.; Turney, Kim J.  
PA Seminis Vegetable Seeds, Inc., USA  
SO U.S., 57 pp., Cont.-in-part of U.S. Ser. No. 367,783, abandoned.  
CCDEN: URMKAM

DT Patent

LA English

FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6127611	A	20001003	US 1997-375233	19970929
WO 9621011	A1	19960711	WO 1996-US7234	19950607
WI: AR, AT, AU, BE, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, JP, GE, HU, IE, FG, KP, PE, PL, LR, LT, LU, LV, MD, MG, MN, MW, MK, NO, NL, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, ZS FW: BE, BG, SD, SU, UG, AT, BE, CH, DE, IE, ES, FR, GB, GR, IE, IT, LU, BE, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, Tl, TG				
US 6142611	E1	20001209	US 2000-616567	20000714

PRAI US 1994-117080 E0 19941230  
WO 1995-027234 W 19950607  
US 1997-15219 A3 19970829

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWERP 11 OF 19 CAPLUS COPYRIGHT 2002 ACS

AN 2001:471-1 CAPLUS

DN 136:161101

TI Modification of sulfur metabolism in plants by overexpression of bacterial cysE and cysK genes

AU Blaszczyk, A.; Liszewska, F.; Brodzik, R.; Sirko, A.  
CS Institute of Biochemistry and Biophysics, Polish Academy of Sciences,  
Warsaw, 02-106, Pol.

SO NATO Science Series, Series A: Life Sciences (2000), 319(Use of  
Agriculturally Important Genes in Biotechnology), 19-25  
CODEN: NASAEZ; ISSN: 1367-5686

PB IOS Press

DT Journal

LA English

RE.CNT 15 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

DUPPLICATE 2

LB ANSWER 12 OF 29 AGRICOLA  
AN 2000:47167 AGRICOLA  
DN IND22092761  
TI Increased resistance to oxidative stress in transgenic tobacco plants  
overexpressing bacterial serine acetyltransferase.  
AU Blaszczyk, A.; Brodzik, R.; Sir-o, A.  
CS Polish Academy of Sciences, Warsaw.  
AV DNA 1 (2001).66  
SO The Plant Journal : for cell and molecular biology, Oct 1999, Vol. 20, No.  
2, p. 217-219  
Publisher: Oxford : Blackwell Sciences Ltd.  
ISSN: 0263-1413  
NTE Includes references  
CY England; United Kingdom  
DT Article  
FS Non-U.S. Import other than FAS  
LA English

LB ANSWER 13 OF 29 CAPLUS COPYRIGHT 2002 ACS  
AN 1998:63494 CAPLUS  
DN 129:271637  
TI Use of scutellin attachment region (SAR) for improved plant  
transformation

IN Horn, Michael E.; Hall, Gerald E., Jr.  
PA Mycogen Plant Science, Inc., USA  
SO PCT Intl. Appl., 36 pp.  
CODEN: PIKME2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PT	WO 9343133	A1	19931006	WO 1993-US6109	19980327
	W: PL, AU, FR, GB, FF, CA, CN, CU, CZ, DE, GE, GW, HU, ID, IL, IS, JP, FP, FR, LC, LF, LR, LT, LV, MG, MK, MN, MX, NC, NZ, PL, FI, SG, SI, SK, SL, TF, TT, UA, UZ, VN, YU, AM, AZ, BY, KG, KZ, ME, BG, TJ, TM P: CH, SE, KE, LS, MW, SL, SZ, UG, ZW, AT, EE, CH, DE, DE, ES, FI, FF, SE, GR, IF, IT, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, CA, CN, ML, MR, NE, SN, TD, TG				
	AU 9863716	A1	19981012	AU 1998-63716	19980327
	EP 070237	A1	20000112	EP 1998-914384	19980327
	P: AT, BE, CH, DE, EP, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	BR 9807844	A	20000222	BR 1998-7899	19980327
	JP 2001151782	T2	20011116	JP 1998-541654	19980327
PRAI	US 1997-41813P	P	19970313		
	US 1997-54413P	P	19970731		
	WO 1998-036149	W	19980327		

LB ANSWER 14 OF 29 CAPLUS COPYRIGHT 2002 ACS

AN 1999:167861 CAPLUS

DN 131:160773

TI pBIN20: an improved binary vector for Agrobacterium-mediated  
transformation

AU Hennegan, Kevin P.; Danna, Kathleen J.  
CS Department of Molecular, Cellular, and Developmental Biology, University  
of Colorado, Boulder, CO, 80303-0347, USA  
SO Plant Molecular Biology Reporter (1998), 16(2), 129-131  
CODEN: PMBRD4; ISSN: 0735-9640  
PB Kluwer Academic Publishers

ST Journal  
LA English  
PR.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 15 OF 29 CAPLUS COPYRIGHT 2002 ACS  
AN 1997:517567 CAPLUS  
DN 127:128464  
TI Cloning of raspberry drupe gene and use of its promoter for  
tissue-stage-specific gene expression in transgenic plants  
IN Kellie, Jill Anne; Bestwick, Richard Keith  
PA Agritepe, Inc., USA; Kellie, Jill Anne; Bestwick, Richard Keith  
SO PCT Int. Appl., 67 pp.  
CODEN: PIXX02

DT Patent

LA English

FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 972731P	A1	19970731	WO 1997-US1443	19970127
W: AL, AM, AT, AU, AR, BA, BB, BG, BE, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JE, KE, KG, KP, KR, KE, LC, LK, LR, LU, LT, LV, MD, MG, MN, MW, NX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UK, VN, AM, AZ, BY, KG, KZ, ML, RU, TJ, TM RN: BE, LI, MW, SD, SC, UG, AT, BE, CH, DE, IE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, T				
US 5783395	A	19980721	US 1996-592936	19960129
CA 2249669	AA	19970731	CA 1997-2743969	19970127
AU 7111443	A1	19970820	AU 1997-14466	19970127
AU 7121601	B2	19981104		
EP 877-18	A1	19981118	EP 1997-014371	19970127
E: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO JP 2000-509848	T1	20000404	JP 1997-537109	19970127
US 5824302	A	19980727	US 1998-1 1573	19980728
PRAI US 1996-592936		19960129		
WO 1997-US1443		19970127		

L8 ANSWER 16 OF 29 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
3

AN 1993:76136 BIOSIS

DN PREV1993:00076396

TI pBECOKS: A flexible series of binary vectors for Agrobacterium-mediated  
plant transformation.

AU McCormac, Alex C.; Elliott, Malcolm C.; Chen, Long-Fong (1)  
CS McCormac, Alex C.; Elliott, Malcolm C.; Chen, Long-Fong (1)  
Norman Baulcombe Inst. Plant Sci. Res., De Montfort Univ., Scraptsoft,  
Leicester LE1 9SU UK  
SO Molecular Biotechnology, (Tech.), 1997 Vol. 3, No. 3, pp. 199-213.  
ISSN: 1073-6085.

DT Article

LA English

L8 ANSWER 17 OF 29 CAPLUS COPYRIGHT 2002 ACS

AN 1997:51613 CAPLUS

DN 126:81649

TI Cloning and sequence of the maize gene for 5C9 protein and its use for  
insect control

IN Fox, Timothy W.; Garnaat, Carl W.; Meyer, Terry E.

PA Pioneer Hi-Bred International, Inc., USA

SO PCT Int. Appl., 30 pp.

CODEN: PIXX02

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9637615	A1	19961126	WO 1996-US7764	19960624
	W: AL, AM, AT, AU, AZ, BE, BG, BR, BY, CA, CH, CN, CL, DE, DK, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, NE, NL, MW, MX, NO, NZ, PL, PT, RO, RU, SE, SG, SI EW: KE, LS, MW, SD, SZ, US, AT, BE, CR, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, MI				
	US 5424961	A	19981120	US 1995-441936	19950525
	CA 2121372	AA	19961128	CA 1996-2211972	19960524
	AU 9558791	A1	19961111	AU 1996-58791	19960524
	US 542662	A	19980116	US 1996-756355	19961126
PRAI	US 1995-449986		19950525		
	WO 1996-0167764		19960624		

L8 ANSWER 18 OF 29 CAPLUS COPYRIGHT 2002 ACS

AN 1996:0167764 CAPLUS

DN 1996:0167764

TI Coat protein genes of cDNA's of cucumber mosaic virus for the preparation of virus-resistant plants

IN Boesnorie, Maury L.; McNamee, J. Russell; Fricoli, David M.; Reynolds, John F.; Carmey, Kim J.

PA Agrow Saed Company, USA

SO PCT Int. Appl., 80 pp.

CODEN: PIKKD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9637615	A1	19960711	WO 1995-US7734	19950607
	W: AM, AT, AU, BB, BG, BE, BY, CA, CH, CN, CL, DE, DK, FR, ES, FI, GB, GE, HU, JP, LZ, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NL, PT, RO, RU, SE, SI, SP, TG, TT, UA, US, UZ EW: BE, DK, SD, SZ, US, AC, BE, CH, DE, DK, ES, FR, FR, GR, IE, IT, LU, MG, NL, PT, SE, FF, BJ, CF, CG, CI, CM, GA, GN, IM, MR, NE, SN, TD, TG				
	AU 1995-67789	A1	19950714	AU 1995-21687	19950607
	AU 1995-67789	B2	19950724		
	EP 91173	A1	19950101	EP 1995-902096	19950607
	E: BE, DE, ES, FR, GR, IT, NL				
	US 5127661	A	19921103	US 1997-876233	19970929
	US 6142655	B1	19930109	US 2000-616567	20000714
PRAI	US 1995-US7734	A2	19951120		
	US 1997-75233	W	19950617		
	US 1997-75233	A3	19970319		

L8 ANSWER 19 OF 29 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
4

AN 1996:331947 BIOSIS

DN PRFV199609054303

TI Analysis of octopine left border-directed DNA transfer from Agrobacterium to plants.

AU Ramanathan, Vai; Veluthambi, K. (1)  
CS (1) Dep. Plant Biotechnol., Sch. Biotechnol., Madurai Kamaraj Univ.,  
Madurai 625 021 India

SO Journal of Biosciences (Bangalore), (1996) Vol. 21, No. 1, pp. 45-56.  
ISSN: 0253-5391.

PT Article

LA English

L8 ANSWER 20 OF 29 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE

AN 1995:495339 BIOSIS  
DN PREV199508359603  
TI High-level production and long-term storage of engineered antibodies in  
transgenic tobacco seeds.  
AU Pfeiderer, Ulrike; Conrad, Udo (I.)  
CI Inst. Pflanzenbauk. Kulturpflanzenforschung, Corrensstr. 3, D-66466  
Gatersleben, Germany  
SO Bio-Technology (New York), (1995) Vol. 13, No. 10, pp. 1090-1093.  
ISSN: 0733-222X.

DT Article  
LA English

L8 ANSWER 21 OF 29 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE

AN 1995:345303 BIOSIS  
DN PREV199508359603  
TI Expression of 2S seed storage protein gene of Brassica juncea in  
transgenic tobacco plants under constitutive and seed-specific promoters.  
AU Ghosh, Sudip K.; Dasgupta, Jaydip; Maiti, Inju B.; Hunt, Arthur G.;  
Manda, Radha K. (I.)  
CS (1) Dep. Biochem., Cent. Plant Mol. Biol., Baise Inst., Calcutta 700 054  
India  
SO Journal of Plant Biochemistry and Biotechnology, (1995) Vol. 4, No. 1, pp.  
1-4.  
DT Article  
LA English

L8 ANSWER 22 OF 29 CAPLUS COPYRIGHT 2002 ACS

AN 1992:466653 CAPLUS  
DN 117:66833  
TI Modification of patterns of sugar metabolism in plants with an  
heterocyclic enzyme  
IN Sonnewald, Uwe; Willmitzer, Lethar  
PA Institut fuer Genbiologische Forschung Berlin GmbH, Germany  
SO Ecr. Pat. Appl., 15 pp.  
CODEN: FPXIDW

DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 430044	A2	19900513	EP 1991-250301	19911104
	EP 430044	A3	19900709		
	EP 430044	PI	20011010		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	DE 4136756	A1	19900514	DE 1990-4035756	19901108
	AT 9107021	A1	19900514	AU 1991-87021	19911104
	AC 650209	B2	19911208		
	EP 1114966	A2	20010701	EP 2001-106521	19911104
	EP 1114966	A3	20011128		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	AT 200161	E	20011016	AT 1991-250301	19911104
	CA 2055150	AA	19920519	CA 1991-2055150	19911107
	HU 00774	A2	19921023	HU 1991-3508	19911107
	HU 119161	B	19981130		
	JP 55006971	A2	19930917	JP 1991-291065	19911107
	US 5493810	A	19960220	US 1993-147007	19931102
	PTAI DE 1990-4035756	A	19911008		
	EP 1991-250301	A3	19911104		
	US 1991-788921	SI	19911107		

## DUPLICATE 7

L1 ANSWER 24 OF 29 AGRICOLA  
 90:11238 AGRICOLA  
 INN IND33048663  
 TI Resistance to heterologous isolates of tomato spotted wilt virus in  
 transgenic tobacco expressing its nucleocapsid protein gene.  
 AU Pang, S.M.; Nagpala, P.; Wang, H.; Slightom, J.L.; Goncalves, L.  
 AV DNAL (464.8 P56)  
 SO Phytopathology, Oct 1992, Vol. 82, No. 10, p. 1223-1229  
 Publisher: St. Paul, Minn. : American Phytopathological Society.  
 CODEN: PHYTAJ; ISSN: 0031-949X  
 NTE Includes references.  
 DT Article  
 FS U.S. Imprints not USDA, Experiment or Extension  
 LA English

L8 ANSWER 24 OF 29 CAPLUS COPYRIGHT 2002 ACS

AN 1990:41-25 CAPLUS  
 DN 113:93-95  
 TI Expression cassette for plant  
 DA Slightom, Jerry L.  
 PA Utrecht, USA  
 SO PCT Int. Appl., 39 pp.  
 CODEN: PIEXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9003189	A1	1990-03-08	WO 1989-US01095	19890720
	WI: AU, DK, FI, HU, JE, FR, NO, SU, US EP: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	AU 3949774	A1	1990-03-13	AU 1989-39704	19890720
	AU 634491	B2	1991-04-13		
	EP 424474	A1	1991-04-16	EP 1989-900579	19890720
	EP 424473	B1	1991-04-16		
	P: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 04-01051	T2	1991-04-16	JP 1989-50-178	19890720
	AT 1010496	E	1991-04-16	AT 1989-90-179	19890720
	EP 690055	A1	1991-04-16	EP 1989-11-128	19890720
	P: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	EP 690057	A1	1991-04-16	EP 1989-11-129	19890720
	P: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	AT 1010493	E	1991-04-16	AT 1989-90-168	19890720
	CA 1380-018	A1	1994-01-25	CA 1380-00-066	19890727
	CA 1380-061	A1	1994-01-27	CA 1380-00-706	19890731
	CN 1380-016	A	1994-01-28	CN 1380-00-6449	19890619
	CN 1380-027	A	1994-01-28	CN 1380-00-6450	19890819
	DK 91-1241	A	1991-01-19	DK 1991-281	19910219
PRAI	US 1989-134412		1989-01-19		
	US 1,544-323536		1989-01-14		
	US 1,544-368710		1989-01-19		
	EP 1,544-308579		1989-01-20		
	EP 1,544-308768		1989-01-20		
	WO 1989-US01095		1989-01-20		

LS ANSWER 25 OF 29 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE

L1  
 AM 1990:075692 BIOSIS  
 DN BAG0112573  
 TI TYPE IPI PLASMIDS Cassettes UTILIZING CAMV SEQUENCES FOR EXPRESSION OF  
 FOREIGN GENES IN PLANTS.  
 AU TIMMERMANS M C P; MALIGA P; VIEIRA J; MESSING J  
 CS MARSHAL INST., RUTGERS, STATE UNIVERSITY NEW JERSEY, PISCATAWAY, NJ  
 08855-1738.

- SG J BIOTECHNOL, (1990) 14 (3-4), 333-344.  
 CODEN: JBIID4. ISSN: 0168-1656.  
 PR BA; CUB  
 LA English
- L8 ANSWER 26 OF 29 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
 9  
 AN 1989:209501 BIOSIS  
 DN 108:1477  
 TI EXPRESSION OF A POTYVIRUS NON-STRUCTURAL PROTEIN IN TRANSGENIC TOBACCO.  
 AU STAYBACH P; HELLMANN W M; SHAW J G; RHODES P E; HUNT A G  
 CS DEPT. OF AGRONOMY, U-212, ARGR. UNIV. OF KY., LEXINGTON, KY. 40546-0031.  
 SO BIOCHEM BIOPHYS RES COMMUN, (1989) 160 (2), 425-432.  
 CODEN: BBRCA9. ISSN: 0006-291X.  
 FS BA; OLI  
 LA English.
- L8 ANSWER 27 OF 29 CAPLUS COPYRIGHT 2002 ACS  
 AN 1988:161721 CAPLUS  
 DN 108:161721  
 TI Transformation and foreign gene expression with woody species  
 IN Fillaudi, Joanne; Comai, Luca  
 PA Calgene, Inc., USA  
 SO Eur. Pat. Appl., 9 pp.  
 CODEN: EPKMDW  
 DT Patent  
 LA English  
 FAN.CNT 1
- | PARENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| EP 02 1164  | A1   | 19870701 | EP 1986-308161  | 19861030 |
| EP 02 1164  | A5   | 19890615 |                 |          |
| R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE |      |          | US 1986-832928  | 19860224 |
| US 4179518  | A    | 19880116 |                 |          |
| FI 6664331  | A    | 19870515 | FI 1986-4331    | 19861024 |
| AU 1668160  | A1   | 19870531 | AU 1986-65172   | 19861113 |
| AU 59191  | B2   | 19900614 |                 |          |
| PRAI US 1981-708050                                   |      | 19851114 |                 |          |
| US 1986-632928  |      | 19860224 |                 |          |
- L8 ANSWER 28 OF 29 CAPLUS COPYRIGHT 2002 ACS  
 AN 1987:150712 CAPLUS  
 DN 106:150712  
 TI Comparison of cauliflower mosaic virus 35S and nepaline synthase promoters  
 in transgenic plants  
 AU Sanders, P. R.; Winter, J. A.; Barnason, A. R.; Rogers, S. G.; Fraley, R.  
 T.  
 CS Plant Mol. Biol. Group, Monsanto Co., St. Louis, MO, 63176, USA  
 SO Nucleic Acids Res. (1987), 15 (4), 1543-58  
 CODEN: PLMPAD; ISSN: 0305-1048  
 DT Journal  
 LA English.
- L8 ANSWER 29 OF 29 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
 10  
 AN 1987:462655 BIOSIS  
 DN BA84:108695  
 TI FACTORS AFFECTING THE LEVEL OF KANAMYCIN RESISTANCE IN TRANSFORMED  
 SUNFLOWER CELLS.  
 AU NUTTER F; EVERETT N; PIERCE D; PANGANIBAN L; OKUBARA P; LACHMANSINGH P;  
 MASCAVENHAS D; WELCH H; METTLER I; ET AL  
 CS DEP. AGRIC. BIOTECHNOL., STAUFFER CHEM. CO., RICHMOND, CALIF. 94804.  
 SO PLANT PHYSIOL (BETHESDA), (1987) 84 (4), 1185-1192.  
 CODEN: PLPHAY. ISSN: 0032-0889.

ED: RA; EL:  
LA: English

=> s plant(w)expression(w)cassette and transform? and pinus  
L9 O PLANT(W) EXPRESSION(W) CASSETTE AND TRANSFORM? AND PINUS

=> s plant(w)expression(w)cassette and transform? and populus  
L10 O PLANT(W) EXPRESSION(W) CASSETTE AND TRANSFORM? AND POPULUS

=> s plant(w)transform? and camv and nos and pb1n and npt and binary(w)vector  
L11 O PLANT(W) TRANSFORM? AND CAMV AND NOS AND PBIN AND NPT AND BINARY  
W) VECTOR

=> file agricola biosis entbase capplus  
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96.26 137.48  
FULL ESTIMATED COST:

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=> s plant(w)transform? and camv and nos and pb1n and npt and binary(w)vector  
L12 O PLANT(W) TRANSFORM? AND CAMV AND NOS AND PBIN AND NPT AND BINARY  
(W) VECTOR

=> s plant(w)transform? and camv and nos and pb1n and phosphotransferase  
L13 O PLANT(W) TRANSFORM? AND CAMV AND NOS AND PBIN AND PHOSPHOTRANSFERASE  
BASE

=> s plant(w)transform? and camv and nos and phosphotransferase  
L14 O PLANT(W) TRANSFORM? AND CAMV AND NOS AND PHOSPHOTRANSFERASE

=> d l14 1-3

L14 ANSWER 1 OF 3 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2001:41036 BIOSIS  
DN FREV200104041036  
TI Direct transformation and plant regeneration of the haploid liverwort  
Marchantia polymorpha L.  
AU Takenaka, Mitsuhi; Yamacka, Shohei; Hinajiri, Tsutomu; Shimizu-Ueda, Yuu;  
Yamato, Katsuyuki T.; Fukuzawa, Hideya; Onyama, Kanji (1)  
CS (1) Laboratory of Plant Molecular Biology, Division of Integrated Life  
Science, Graduate School of Biosciences, Kyoto University, Kyoto, 606-8502:  
kohyama@lif.kyoto-u.ac.jp Japan  
SO Transgenic Research, (June, 2000) Vol. 9, No. 3, pp. 179-185. print.  
ISSN: 0862-8819.  
DT Article  
LA English  
SL English

L14 ANSWER 2 OF 3 CAPPLUS COPYRIGHT 2002 ACS  
AN 2001:3941st CAPPLUS  
DN 1001:176439

TI Production of recombinant rotavirus structural proteins by transformed plant cell, and edible vaccine composition including the rotavirus antigen  
IN Kim, Won-yong; Chung, In-sik; Lee, Youn-hyung; Kim, Hong-joong  
SA S. Korea  
DO PCT Int. Appl., 55 pp.  
COLEN: PIKMD2  
DT Patent  
LA English

PAINT.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001053770	A1	20010816	WO 2001-KR206	20010212
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CS, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, FG, KP, LZ, LK, LR, LS, LT, LV, LV, MA, MC, MG, MN, MW, MX, MT, NO, NZ, PL, PT, RO, RU, SE, SE, SG, SI			
PW:	GH, GN, HE, LS, MW, MZ, SD, SL, SZ, TG, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BE, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

PRAI KR 2000-6694 A 20000212

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS  
AN 2000:728957 CAPLUS

DN 134:061674

TI Direct transformation and plant regeneration of the haploid liverwort  
*Marchantia polymorpha* L.  
AU Takenaka, Mizuki; Yuzacka, Shohei; Hanajiri, Tsutomu; Shimizu-Ueda, Yuu;  
Yamato, Mitsuyski T.; Fukizawa, Hideya; Ihyama, Kanji  
CS Laboratory of Plant Molecular Biology, Division of Integrated Life  
Science, Graduate School of Biostudies, Kyoto University, Kyoto, 606-8502,  
Japan

SO Transgenic Research (2000), 9(3), 179-185  
CODEN: TRSEEN; ISSN: 0962-8819

PB Kluwer Academic Publishers

DT Journal

LA English

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s agrobacterium and camv and nos and neomycin  
L15 B AGROBACTERIUM AND CAMV AND NOS AND NEOMYCIN

=> d 115 1-8

L16 ANSWER 1 OF 8 AGRICOLA  
AN 1994:661714 AGRICOLA

DN 1994:6603016

TI Integration, expression and inheritance of two linked T-DNA marker genes  
in transgenic lettuce.  
AU McCabe, M.S.; Mishapatra, U.B.; Debnath, S.C.; Power, J.B.; Davey, M.R.  
CS University of Nottingham, University Park, Nottingham, U.K.  
AV DNA (QF981.4.M63)  
SO Molecular breeding : new strategies in plant improvement, 1993. Vol. 1,  
No. 4. p. 329-344  
Publisher: Dordrecht ; Boston : Kluwer Academic Publishers, c1993-  
CODEN: MOBREF; ISSN: 1380-3743

NTE Includes references

CY Netherlands

DT Article

FS Non-U.S. Imprint other than FAO

LA English

L14 ANSWER 2 OF 8 AGRICOLA  
AN 94:70893 AGRICOLA  
DN INN20413693  
TI Genetic transformation and plant regeneration of watermelon using  
**Agrobacterium tumefaciens**.  
AU Choi, P.S.; Soh, W.Y.; Kim, Y.S.; Yoo, O.J.; Liu, J.P.  
AV DNAL (QK725.P54)  
SO Plant cell reports, 1994. Vol. 13, No. 6, p. 344-348. 1  
Publisher: Berlin, W. Ger. : Springer International.  
CODEN: PCRPD3; ISSN: 0721-7714  
NTE Includes references  
CY Germany  
DT Article  
FS Non-U.S. Imprint other than FAO  
LA English

L15 ANSWER 3 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1994:214973 BIOSIS  
DN PREV1994917269373  
TI Genetic transformation and plant regeneration of watermelon using  
**Agrobacterium tumefaciens**.  
AU Choi, Pil S.; Soh, Wong Y.; Kim, Youn S.; Yoo, Ock J.; Liu, Jan K. (I)  
CS (I) Plant Cell Biol. Lab., Genetic Eng. Res. Inst., KIST, Taejon Korea  
SO Plant Cell Reports, (1994) Vol. 13, No. 6, pp. 344-348.  
ISSN: 0721-7714.  
DT Article  
LA English

L15 ANSWER 4 OF 8 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1994:160611 BIOSIS  
DN PREV19949172814  
TI Genetic transformation by **Agrobacterium tumefaciens** in the  
interspecific hybrid *Helianthus annuus* X *Helianthus tuberosus*.  
AU Papetti, Claudio; Biasini, Maria Grazia; Fambrini, Marco; Baroncelli,  
Serjio (I)  
CS (I) Dep. Agricultural Plant Biology, Genetics Section, Via Matteotti 1/B,  
I-56134 Pisa Italy  
SO Plant Science (Limerick), (1993) Vol. 93, No. 1-2, pp. 105-115.  
ISSN: 0163-9452.  
DT Article  
LA English

L15 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2002 ACS  
AN 2001:538135 CAPLUS  
DN 133:176438  
TI Production of recombinant rotavirus structural proteins by transformed  
plant cell, and edible vaccine composition including the rotavirus antigen  
IN Kim, Won-yong; Chung, In-sik; Lee, Youn-hyung; Kim, Hong-joong  
PA S. Korea  
SO PCT Int. Appl., 55 pp.  
CODEN: PCTXXD2  
DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001003070	A1	20010816	WO 2001-KR206	20010212

IN: AF, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,  
HR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,  
HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LV,  
LU, MA, MD, MG, MK, MN, MM, MZ, NG, NZ, PL, PT, RO, RU, SD,  
SE, SG, SI

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,  
BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
PRAL KP 2000-0694 A 20100212  
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2002 ACS  
AN 1999:218113 CAPLUS  
DN 132:85859  
TI Genetically modified organisms in food-screening and specific detection by polymerase chain reaction  
AU Volkenhcier, Sabine; Burg, Kornel; Schmidt, Josef; Kroath, Hans  
CS Austrian Research Centers Seibersdorf Biotechnology Unit, Seibersdorf,  
A-2144, Austria  
SC Journal of Agricultural and Food Chemistry (1999), 47(12), 5038-5043  
COOEN: JAFCAU; ISSN: 0021-3561  
PB American Chemical Society  
DT Journal  
LA English  
RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2002 ACS  
AN 1495:139116 CAPLUS  
DN 123:73260  
TI Genetic transformation and plant regeneration of watermelon using **Agrobacterium tumefaciens**  
AU Choi, Pil S.; Sch, Wong Y.; Kim, Youn S.; Yoo, Gok J.; Liu, Jang R.  
CS Genet. Eng. Res. Inst., FIST, Taegon, S. Korea  
SO Plant Cell Rep. (1994), 13(6), 344-8  
COOEN: PCDPDI; ISSN: 0721-7714  
DT Journal  
LA English

L15 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2002 ACS  
AN 1994:237118 CAPLUS  
DN 120:237118  
TI Genetic transformation by **Agrobacterium tumefaciens** in the interspecific hybrid *Helianthus annuus* .times. *Helianthus tuberosus*  
AU Pugliesi, Claudio; Biasini, Maria Grazia; Fambrini, Marco; Baroncelli, Sergio  
CS Genet. Sect., Dep. Agric. Plant Biol., Pisa, I-56124, Italy  
SO Plant Sci. (Limerick, Irrel.) (1993), 93(1-2), 105-15  
COOEN: PLSC4; ISSN: 0168-9452  
DT Journal  
LA English

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COST IN U.S. DOLLARS SINCE FILE TOTAL  
SESSION  
53.83 191.36

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COST IN U.S. DOLLARS

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ENTRY SESSION  
6.06 161.42

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=> s pain19 and agrobacterium and camv and nptII  
L16 3 PBIN19 AND AGROBACTERIUM AND CAMV AND NPTII

=> a L16 1-3

L16 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS  
AN 2002:452631 CAPLUS  
TI Transformation of Gerbera plants with tomato spotted wilt virus (TSWV)-  
nucleoprotein gene  
AU Korbin, M.; Poduszyńska, M.; Komorowska, B.; Wawrzynczak, D.  
CS Research Institute of Plantology and Floriculture, Skierniewice, 96-100,  
Pol.  
SO Acta Horticulturae (1998), 572(Proceedings of the Twentieth International  
Eucarpia Symposium, Section Ornamentals, 2001), 149-157  
CODEN: AHORAZ; ISSN: 0567-7572  
PB International Society for Horticultural Science  
DT Journal  
LA English

L16 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS  
AN 1998:315103 CAPLUS  
DN 131:142146  
TI Chitinase-transgenic lines of "Royal Gala" apple showing enhanced  
resistance to apple scab  
AU Wong, K-W.; Harman, S. E.; Morelli, J. L.; Gustafson, H. L.; Aldwinckle,  
H. S.  
CS Department of Plant Pathology, Cornell University, Geneva, NY, 1446, USA  
SO Acta Horticulturae (1998), 484(Eucarpia Symposium on Fruit Breeding and  
Genetics, 1996), 595-599  
CODEN: AHORAZ; ISSN: 0567-7572  
PB International Society for Horticultural Science  
DT Journal  
LA English  
RE.CNT 20 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS  
AN 1998:373878 CAPLUS  
DN 129:145382  
TI Preparation of coat protein-containing binary vectors for use in  
agrobacterium-mediated transformation  
AU Wallis, Corrin V.; Boulton, Margaret I.  
CS Department of Virus Research, John Innes Centre, Norwich, UK  
SO Methods in Molecular Biology (Totowa, New Jersey) (1998), 81(Plant  
Virology Protocols), 341-352  
CODEN: MMBRIP; ISSN: 1064-3744  
PP Humana Press Inc.  
DT Journal

LA English

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COST IN U.S. DOLLARS	ENTRY	SESSION
FULL ESTIMATED COST	0.12	204.32

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=> d l12 1-1

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'INONE' IS NOT A VALID SEARCH STATUS KEYWORD

Search status keywords:

NONE ---- Display only the number of postings.

STATUS -- Display statistics of the search.

ENTER SEARCH STATUS OPTION (NONE), STATUS, OR ?:status

'?Y' IS NOT A VALID SEARCH STATUS KEYWORD

Search status keywords:

NONE ---- Display only the number of postings.

STATUS -- Display statistics of the search.

ENTER SEARCH STATUS OPTION (NONE), STATUS, OR ?:status

L12  
0 SPA PLANT(W/ TRANSFORM?) AND CAMV AND NOS AND PBIN AND NPT AND  
BC WRY(W/ VECTOR)

=> d l16 1

L16 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 AIS

AN 2002:452631 CAPLUS

TI Transformation of Gerbera plants with tomato spotted wilt virus (TSWV)  
nucleoprotein gene

AU Korbin, M.; Podwyszynska, M.; Komorowska, B.; Wawrzynczak, D.  
CS Research Institute of Pomology and Floriculture, Skierkiewice, 36-100,  
Pol.

PR Asia Horticultural 2002, 572 Proceedings of the Twentieth International  
Horticultural Congress, Section Ornamentals, 2001, 149-157  
ISSN: AHO-AZ; ISSN: 9607-1572  
PB International Society for Horticultural Science  
DT Journal  
LA English

=> FILE STNGUIDE  
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LAST RELOADED: Jun 14, 2002 (20/20614/UP).

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COST IN U.S. DOLLARS ENTRY SESSION  
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FULL ESTIMATED COST

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=> s pbini9  
L17 123 #BINI9

=> s l17 ani nptii  
L18 21 L17 AND NPTII

=> s l17 and neomycin  
L19 23 L17 AND NEOMYCIN

=> s l19 and camv  
L20 24 L19 AND CAMV

=> s l19 and 35s  
L21 25 L19 AND 35S

=> d 121

L21 ANSWER 1 OF 1 CAPPLUS COPYRIGHT 2002 ACS  
AU 1993:95261 CAPPLUS  
DN 118:95261  
TI Factors influencing Agrobacterium tumefaciens mediated transformation and  
expression of kanamycin resistance in pickling cucumber  
AU Salmento, G. G.; Alpert, K.; Tang, F. A.; Punja, Z. K.  
CC Campbell Inst. Res. Technol., Campbell (cup Co., Davis, CA, 95616, USA  
SP Plant Cell, Tissue Organ Cult. (1992), 31(3), 185-93

CODEN: PTCEDJ; ISSN: 0167-6857  
ST Journal  
LA English

FILE STNGUIDE	SINCE FILE	TOTAL
PRICE IN U.S. DOLLARS	ENTRY	SESSION
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LAST RELEASED: Jun 14, 2002 (20/20614/UP).

=> d 119 1-11  
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(Y/N:y)

L19 ANSWER 1 OF 22 AGRICOLA  
AN 2001:EN199 AGRICOLA  
DN IND20016164  
TI A mini binary vector series for plant transformation.  
AU Xiang, C.; Hua, P.; Lutziger, I.; Wang, K.; Oliver, D.J.  
CS Iowa State University, Ames, IA.  
AV DNA (1.2Kb 10.263)  
SO Plant molecular biology, July 1999. Vol. 40, No. 4. p. 711-717  
Publisher: Dordrecht : Kluwer Academic Publishers.  
CODEN: PMBILB; ISSN: 0167-4412  
NTE Includes references  
CY Netherlands  
DT Article  
FS Non-U.S. Imprint other than FAO  
LA English

L19 AMSWER 2 OF 22 AGRICOLA  
AN 1998:26710 AGRICOLA  
DN IND200303064  
TI Agrobacterium-mediated transformation of Artemisia absinthium L.  
(wormwood) and production of secondary metabolites.  
AU Nin, S.; Benicci, A.; Roselli, G.; Mariotti, D.; Schiff, S.; Magherini, R.  
SO Plant cell reports, July 1997. Vol. 16, No. 10. p. 725-730  
Publisher: Berlin, W. Ger. : Springer International.  
CODEN: PCRPD8; ISSN: 0721-7714  
NTE Includes references  
CY Germany  
DT Article  
FS Non-U.S. Imprint other than FAO  
LA English

L19 ANSWER 3 OF 22 AGRICOLA  
AN 96:2046 AGRICOLA  
DN IND200491089  
TI pBINPLUS: an improved plant transformation vector based on pBIN19  
AU Engelen, F.A. van; Molthoff, J.W.; Conner, A.J.; Nap, J.P.; Pereira, A.;  
Stiekema, W.J.  
CS CPRO-DLO, Wageningen, The Netherlands.  
AV DNAI (QH442.6.T74)

- PL Transgenic research, July 1995, Vol. 4, No. 4, p. 288-290  
Publisher: London, UK : Chapman & Hall, c1991-  
Coden: TRGEE5; ISSN: 0962-1354
- NTE Includes references  
CY England; United Kingdom  
DT Article  
FS Non-U.S. Imprint other than FAO  
LA English
- L19 ANSWER 4 OF 22 AGRICOLA  
AN 95:61913 AGRICOLA  
DN INR2048.1765  
TI Biolistic transformation of chrysanthemum with the nucleocapsid gene of  
tomato spotted wilt virus.  
AU Yee, J.M.; Mittak, V.; Pang, S.Z.; Gonsalves, C.; Slightom, J.L.;  
Gonsalves, D.  
CS Cornell University, Geneva, NY.  
AV DNAL (QK715.P54)  
SO Plant cell reports, 1995, Vol. 14, No. 11, p. 694-698  
Publisher: Berlin, W. Ger. : Springer International.  
Coden: PLCRD8; ISSN: 0721-7714
- NTE Includes references  
CY Germany  
DT Article  
FS Non-U.S. Imprint other than FAO  
LA English
- L19 ANSWER 5 OF 22 AGRICOLA  
AN 95:27362 AGRICOLA  
DN INI93013741  
TI Modified binary plant transformation vectors with the wild-type gene  
encoding NPTII.  
AU Datla, R.J.S.; Hammerlindl, J.K.; Panchuk, E.; Pelcher, L.E.; Keller, W.  
CS National Research Council of Canada, Saskatoon, Sask., Canada  
AV DNAL (H442.A134)  
SO Gene, 1992, Vol. 122, No. 2, p. 383-394  
Publisher: Amsterdam : Elsevier Science Publishers.  
Coden: GENEL6; ISSN: 0378-1119
- NTE Includes references.  
DT Article  
FS Non-U.S. Imprint other than FAO  
LA English
- L19 ANSWER 6 OF 22 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1997:3-2104 BIOSIS  
DN PFEV19-799691307  
TI Agrocharterium-mediated transformation of Artemisia absinthium L.  
(wormwood) and production of secondary metabolites.  
AU Nin, S. (1); Bennici, A.; Roselli, G.; Mariotti, D.; Schiff, S.;  
Majeran, F.  
CS I Dip. Ortofiorofrutticoltura, Univ. Firenze, Via Donizetti 6, I-50144  
Firenze Italy  
SO Plant Cell Reports, (1997) Vol. 16, No. 10, pp. 725-730.  
ISSN: 0721-7714.
- DT Article  
LA English
- L19 ANSWER 7 OF 22 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1996:123542 BIOSIS  
DN PFEV199631695077  
TI Ti plasmid-mediated transformation of tobacco with C-4-PEPCase cDNA from  
Zea mays.  
AU Song, Long-Ying; Liang, Jun; Wang, Chao-Ming; Shi, Jiao-Nai  
CS Shanghai Inst. Plant Physiology, Chinese Academy Sciences, Shanghai 200032

SO China  
Acta Phytophysiologica Sinica, (1995) Vol. 21, No. 3, pp. 281-288.  
ISSN: 0167-4829.

DT Article  
LA Chinese  
SL Chinese; Eng.; sh

L18 ANSWER 8 OF 22 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1995:45:342 BIOSIS  
DN PSEW19943846342  
TI Biolistic transformation of chrysanthemum with the nucleocapsid gene of  
tomato spotted wilt virus.  
AU Yeges, Luz Marcela (1); Mittak, Veronica; Pang, Shenk-Zhi; Gonsalves,  
Carol; Slightom, Jerry L.; Gonsalves, Dennis  
CS (1) Dep. Plant Pathol., Cornell Univ., New York State Agric. Exp. Sta.,  
Geneva, NY 14456 USA  
SO Plant Cell Reports, (1995) Vol. 14, No. 11, pp. 694-698.  
ISSN: 0721-7714.

DT Article  
LA English

L19 ANSWER 9 OF 22 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1994:17857 BIOSIS  
DN PSEW199437030357  
TI Screening of transgenic plants using polymerase chain reaction.  
AU Padaginas, I.; Shul'ga, O. A.; Skryakin, K. G.  
CS Cenr. "Bioeng.", Acad. Sci. Russ., Moscow 117984 Russia  
SO Molekulyarnaya Biologiya (Moscow), (1993) Vol. 27, No. 4, pp. 947-951.  
ISSN: 0026-3934.

DT Article  
LA Russian  
SL Russian; English

L19 ANSWER 10 OF 22 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1993:164695 BIOSIS  
DN PSEW199335085743  
TI Modified binary plant transformation vectors with the wild-type gene  
encoding NPTII.  
AU Datla, Faju S. S. (1); Hammerlindl, Joe K.; Panchuk, Barry; Pelcher,  
Lawrence E.; Keller, Wilf  
CS (1) Plant Biotechnol. Inst., 110 Gymnasium Rd, Saskatoon, Sask. S7N 0W9  
Canada  
SO Gene (Amsterdam), (1992) Vol. 122, No. 2, pp. 383-384.  
ISSN: 0378-1119.

DT Article  
LA English

-> d 119 1-10 ab  
YOU HAVE REQUESTED DATA FROM FILE 'AGRICOLA, BIOSIS, EMBASE, CAPLUS' - CONTINUE?  
(Y/N):y

L19 ANSWER 1 OF 22 AGRICOLA  
AB A streamlined mini binary vector was constructed that is less than 1/2 the  
size of the **pBIN19** backbone (3.5 kb). This was accomplished by  
eliminating over 5 kb of non-T-DNA sequences from the **pBIN19**  
vector. The vector still retains all the essential elements required for a  
binary vector. These include a RK2 replication origin, the **nptII** gene  
conferring kanamycin resistance in bacteria, both the right and left T-DNA  
borders, and a multiple cloning site (MCS) in between the T-DNA borders to  
facilitate cloning. Due to the reduced size, more unique restriction sites  
are available in the MCS, thus allowing more versatile cloning. Since the

traf region was not included, it is not possible to mobilize this binary vector into Agrobacterium by triparental mating. This problem can be easily resolved by direct transformation. The mini binary vector has been demonstrated to successfully transform *Arabidopsis* plants. Based on this mini binary vector, a series of binary vectors were constructed for plant transformation.

L19 ANSWER 1 OF 12 AGRICOLA

AB Hairy roots were obtained after infection of *Artemisia absinthium* shoots with *Agrobacterium rhizogenes* strains 1855 and LBA 9402. The susceptibility to hairy root transformation varied between plant genotypes and bacterial strains. Hairy roots showed macroscopic differences from control root cultures. Southern blot hybridization confirmed the integration of T-DNA from both p1855 and **pBin19**, while polymerase chain reaction analysis indicated the presence of the **neomycin phosphotransferase** gene in the hairy root genome. Subcultured transformed root lines grew well in selective B5 agar-solidified medium containing kanamycin or rifampicin and without hormones. Shake-flask experiments with fast-growing root lines showed that 40 g l<sup>-1</sup> was the best sucrose concentration for biomass production, yielding a 46-fold increase in dry weight after 23 days of culture. Great differences were found in the profiles of the essential oils isolated from normal and hairy roots. Gas chromatography/mass spectrometry analysis showed the oil produced by transformed cultures to be a mixture of 30 compounds with only one major component representing 7% of the oil content.

L19 ANSWER 2 OF 12 AGRICOLA

L19 ANSWER 4 OF 12 AGRICOLA

AB In vitro regeneration and callistic transformation procedures were developed for several commercial chrysanthemum (*Gentianella grandiflora* Tzvelev, syn. *Chrysanthemum morifolium* Ramat.) cultivars using leaf and stem explants. Studies on the effect of several growth regulators and kanamycin on chrysanthemum regeneration were conducted, and a step-wise procedure to optimize kanamycin selection and recovery of transgenic plant was developed. A population of putative transformed chrysanthemum plants, e.g. British, Dark Bronze Charm, Iridion, and Tara, was obtained after bombardment with tungsten microprojectiles coated with the binary plasmid **pBIN19** containing the nucleopolyhedrovirus (NP) gene of *Saccharomyces cerevisiae* and the marker gene **neomycin phosphotransferase**. PCR analysis of 12 putative transgenic plants selected on NPT II. The PCR analysis indicated that the majority of the lines (83%) were transformed and contained both genes (71%). However, some transgenic lines contained only one of the genes either the NPT II (15%) or the TSWV (NP) gene (14%). Only one of the lines confirmed the integration of the TSWV (NP) gene into the chrysanthemum genome. These results demonstrate the development of an efficient procedure to transfer genetic material into the chrysanthemum genome and selectively regenerate transgenic chrysanthemum plants at frequencies higher than previously reported.

L19 ANSWER 5 OF 12 AGRICOLA

AB The defective gene encoding **neomycin phosphotransferase** (NPTII) present in the binary plasmid vector, **pBin19**, was replaced with the wild-type (wt) gene. Plasmid vectors analogous to **pBin19**, pBI121 and pBI101 were constructed carrying the gene encoding the wt NPTII enzyme activity.

L19 ANSWER 6 OF 12 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB Hairy roots were obtained after infection of *Artemisia absinthium* shoots with *Agrobacterium rhizogenes* strains 1855 and LBA 9402. The susceptibility to hairy root transformation varied between plant genotypes and bacterial strains. Hairy roots showed macroscopic differences from control root cultures. Southern blot hybridization confirmed the integration of T-DNA from both p1855 and **pBin19**, while polymerase chain reaction analysis indicated the presence of the **neomycin phosphotransferase** gene in the hairy root genome.

control root cultures. Southern blot hybridization confirmed the integration of T-DNA from both p18S5 and **pBin19**, while polymerase chain reaction analysis indicated the presence of the **neomycin phosphotransferase** gene in the hairy root genome.

Sukcultured transformed root lines grow well in selective B5 agar-solidified medium containing kanamycin or rifampicin and without hormones. Shake-flask experiments with fast-growing root lines showed that 40 µM was the best sucrose concentration for biomass production, yielding a 40-fold increase in dry weight after 18 days of culture. Great differences are found in the profile of the essential oils isolated from normal and hairy roots. Gas chromatograph-mass spectrometry analysis showed the oil produced by transformed cultures to be a mixture of 50 compounds with only one major component representing 1% of the oil content.

L19 ANSWER 7 OF 22 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AB C-4-Pyruvate kinase (EC 4.1.1.31) is a key enzyme in Phosphoenolpyruvate carboxylase, and imposes a wealth of advantage to the C-4-dicarboxylic assimilation, and imposes a wealth of advantage to the photosynthetic properties of C-4 plants. The genetic transfer of photosynthetic properties of C-4 plants. The genetic transfer of photosynthetic properties of C-4 plants. In potential approach to improve the photosynthetic rate of C-3 plants. In this paper, a C-4-PEPCase cDNA from Zea mays was transferred into a C-3 plant tobacco, and a transgenic plant was constructed for further studies on the expression of C-4-PEPCase gene in C-3 plant as well as the modulation of photosynthetic system in C-3 plants. A 2.1 kb fragment of C-4-PEPCase cDNA derived from maize PEPCase cDNA named pPEP3055 was subcloned into binary vector **pBin19**, and transinjugated into Agrobacterium tumefaciens containing vir helper plasmid LBA4404 by means of 'triparental mating'. Then the engineering plasmid pPEP2 harbouring C-4-PEPCase cDNA was transferred into the leaf disc of tobacco by co-culture with transconjugated *A. tumefaciens*. Antisiotic screening yielded a set of transfectants resistant to kanamycin and the regenerates transgenic tobacco was obtained as shown. The assay for neomycin phosphotransferase (NPT II) showed a frequency of 80%, implying that the C-4-PEPCase cDNA neighbouring the NPT II gene might have been transferred into tobacco cell. Southern blotting analysis provided further evidence that the PEPCase cDNA was easily integrated into the tobacco genome, promising the possibility of getting substantial expression of C-4-PEPCase gene in C-3 plants.

L19 ANSWER 8 OF 22 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AB In vitro regeneration and biotic transformation procedures were developed for several commercial chrysanthemum *Dendranthema grandiflora* Tavel. v. syn. *Chrysanthemum morifolium* Ramat. cultivars using leaf and stem explants. Studies on the effect of several growth regulators and kanamycin on chrysanthemum regeneration were conducted, and a step-wise procedure to optimize kanamycin selection and recovery of transgenic plants was developed. A population of putative transformed chrysanthemum plants was developed. A population of putative transformed chrysanthemum plants was obtained after plants cvs. Blush, Dark Bronze Charr, Iridin, and Tara, was obtained after bombardment with tungsten microproj. stils coated with the binary plasmid **pBIN19** containing the nopal mosaic virus (N) gene of tomato spotted wilt virus (TSWV) and the marker gene **neomycin phosphotransferase** (NPT II). PCR analysis of the putative transgenic plants selected on kanamycin indicated that the majority of the lines (69%) were transformed and contained both genes (N+). However, some transgenic lines contained only one of the genes: either the NPT II (15%) or the TSWV (N) gene (14%). Only one of the lines, either the NPT II (15%) or the TSWV (N) gene (14%), confirmed the Southern blot analysis on selected transgenic lines confirmed the integration of the TSWV (N) gene into the chrysanthemum genome. These results demonstrate the development of an efficient procedure to transfer genetic material into the chrysanthemum genome and selectively regenerate transgenic chrysanthemum plants at frequencies higher than previously reported.

L19 ANSWER 9 OF 22 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB A test system for selecting transgenic plants based on polymerase chain reaction (PCR) has been proposed. It is applicable to primary screening of transgenic plants obtained by cocultivation with *Agrobacterium* which contains any vector carrying **neomycin phosphotransferase** genes from transposon Tn5 and *Streptococcus* (for example **pBIN19**). These genes confer kanamycin resistance in plants and bacteria respectively. The absence of strong homology between these two genes allows one to perform two PCRs in the same reaction mixture. This simultaneous selection of transgenic plants and test for contamination with *Agrobacterium* are possible. We have also proposed a simple procedure for preparing small samples of plant DNA suitable for PCR detection.

L19 ANSWER 10 OF 22 BIONIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AB The defective gene encoding **neomycin phosphotransferase** (NPTII) present in the binary plasmid vector, **pBin19**, was replaced with the wild-type (wt) gene. Plasmid vectors analogous to **pBin19**, **pBIN11** and **pBIN01** were constructed carrying the gene encoding the wt NPTII enzyme activity.

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=> d 121 ab

L21 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS

AB Cucumber (*Cucumis sativus* L.) petiole and leaf segments of two pickling genotypes were transformed with *A. tumefaciens* strain LBA 4404, an octopine Ti-plasmid deletion mutant that is avirulent disarmed plasmid, but to which were added T-DNA inserts in binary plasmids (pBIN 19, ca. 10 kb, and pBIN 763, ca. 25 kb). Expression of **neomycin phosphotransferase** (NPT II) encoding resistance to the aminoglycoside kanamycin was used as a selectable marker. Factors which influenced the frequency of callus development in medium contg. kanamycin (75 mg l-1) were explant size, bacterial concn. and length of exposure, cocultivation period, and presence of acetosyringone. The optimal procedure involved exposing segments of petiole (4-6 mm) or leaf (0.5 cm2) segments to a bacterial suspension (108 cells ml-1) contg. 0.05 μM acetosyringone for 5 min, followed by a 48 h cocultivation period on a tobacco feeder layer. Explants were placed on MS medium contg. 1.0 mg l-1 carbenicillin, 75 mg l-1 kanamycin, and NAA/BA (5.0/2.5 μM) or 1,4-D/BA (5.0/5.0 μM) and subcultured twice, each after a 2-3 wk period, onto fresh media. The overall frequency of transformed callus was 20-50%; the frequency of plantlet regeneration from transformed callus was 3-15%. Twenty-one out of 26 individual plants recovered from two genotypes of pickling cucumber were NPT II pos. (transformation frequency of 9%). Copy no. of the NPT II

gene insert (35S-NPT II-3' fragment, ca. 2.2 kb) in 3 transformed plants was estd. at 10 per haploid genome, indicative of multiple insertions within the cucumber genome. Multimers of the gene (visible as 4.4 and 6.6 kb fragments in Southern anal.) were detected in one plant, suggestive of tandem duplications or repeats. Progeny from a cross between this transformed plant and a nontransformed control showed segregation for the NPT II gene in dot-slot assays; at least 24 plants out of 32 were kanamycin pos. Copy no. in the progeny was variable, and ranged 0-19.

=> d 119

L11 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS  
AN 1993:95261 CAPLUS  
DN 119:95261  
TI Factors influencing Agrobacterium tumefaciens mediated transformation and expression of kanamycin resistance in pickling cucumber  
AU Sarmento, G. G.; Albert, K.; Tang, F. A.; Punja, Z. K.  
CS Campbell Inst. Res. Technol., Campbell Soup Co., Davis, CA, 95616, USA  
SO Plant Cell, Tissue Organ Cult. (1993), 31(3), 185-93  
CODEN: PCICDM; ISSN: 0167-6357  
DT Journal  
LA English

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=> d 119 11-22 ab  
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(Y)/N:y

L10 ANSWER 11 OF 21 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AB Two different Ti-binary vectors in Agrobacterium tumefaciens have been used to produce viable transgenic strawberry plants. Fertile strawberry plants with a normal phenotype were regenerated after transformation with pBIN6, which carries genes for nopaline synthase (nos) and neomycin phosphotransferase (nptII) (confering kanamycin resistance). The transfer and expression of the two genes was confirmed by Southern blot analysis, the detection of nopaline synthase (NOS) activity in vegetative and reproductive tissues and rooting in vitro in the presence of kanamycin. The nos gene continued to be expressed in glasshouse-grown plants many months after removal from in vitro growth conditions. After selfing the R1 plants nos segregated in the R1 progeny according to a 3:1 Mendelian ratio. In in vitro germinated seedlings there was complete correlation between the presence of nopaline synthase activity and the ability of leaf segments to produce callus on a medium containing kanamycin. Transgenic

lines that exhibited an abnormal phenotype associated with cytokinin overproduction were produced when plants were transformed with pBS1, a derivative of **pBIN19** carrying both the nptII gene and the ipi gene (encoding the enzyme isopentenyltransferase). Shoots of these lines, which grew on hormone-free medium, could not be induced to root and their growth was unaffected by the presence of 50 µg/ml kanamycin in hormone-free media.

- L19 ANSWER 1 OF 22 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
AB A test system for selecting transgenic plants based on polymerase chain reaction (PCR) has been proposed. It is applicable to primary screening of transgenic plants obtained by co-cultivation with *Agrobacterium* which contains any vector carrying **neomycin phosphotransferase** genes from transposon Tn5 and *Streptococcus* (for example **pBIN19**). These genes confer kanamycin resistance in plants and bacteria respectively. The absence of strong homology between these two genes allows one to perform two PCRs in the same reaction mixture. Thus simultaneous selection of transgenic plants and test for contamination with *Agrobacterium* are possible. We have also proposed a simple procedure for preparing small samples of plant DNA suitable for PCR detection.
- L19 ANSWER 1 OF 22 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
AB The *lef-1* gene encoding **neomycin phosphotransferase** (NPTII) present in the binary plasmid vector, **pBin19**, was replaced with the wild-type wt<sup>r</sup> gene. Plasmid vectors analogous to **pBin19**, pH1121 and pBI101 were constructed carrying the gene encoding the wt NPTII enzyme activity.
- L19 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2002 ACS  
AB *Agrobacterium tumefaciens* and biolistic transformation procedures were developed for *Polaris* and *Golden Polaris*, two important com. *chrysanthemum* (*Dendranthus grandiflora* Tzvelev (syn. *Chrysanthemum morifolium* Lamat.) cultivars. The disarmed *A. tumefaciens* strains LBA4404, C58s2707 and EHA105 coning. the binary plasmids **pBIN19** or pGA482G were used for transformation. Both plasmids containe: within the T-DNA borders of the nucleoplasmin protein genes of either tomato spotted wilt (TSWV), Impatiens necrotic spot (INSV), or groundnut ringspot (GRSV) tospoviruses, and the marker gene **neomycin phosphotransferase** (NPT II); and the marker gene **ss-glucuronidase** (GUS) gene. Transgenic plants were recovered using leaf and stem explants, and using a step-wise kanamycin selection procedure to optimize recovery of transformed plants. Southern blot analysis confirmed the integration of the N genes into the *chrysanthemum* genome. Most of the putative transgenic plants tested were PCR pos. (+) indicating that the kanamycin selection procedure was effective and helped reduce the no. of escapes. One hundred and fifty eight transgenic *Polaris* and sixty six transgenic *Golden Polaris* plants were obtained with different N gene constructs. The cultivar Iridion was also transformed with the three N gene constructs, and two hundred and seventy three independent transgenic lines were recovered. These results demonstrate the efficiency of the procedures used to transfer genetic material into the genera of *chrysanthemum* cultivars recalcitrant to regeneration.
- L19 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2002 ACS  
AB Hairy roots were obtained after infection of *Artemisia absinthium* shoots with *Agrobacterium rhizogenes* strains 1451 and LKA 9402. The susceptibility to hairy root transformation varied between plant genotypes and bacterial strains. Hairy roots showed macroscopic differences from control root cultures. Southern blot hybridization confirmed the integration of T-DNA from both p1858 and **pBin19**, while polymerase chain reaction anal. indicate the presence of the **neomycin phosphotransferase** gene in the hairy root genome. Single-tured transformed root lines grew well in selective 2% agar-solidified medium contg. kanamycin or rifampicin and without

hormones. Shake-flask expts. with fast-growing root lines showed that 4% g/l was the best sucrose concn. for biomass prodn., yielding a 463-fold increase in dry wt. after 35 days of culture. Great differences were found in the profiles of the essential oils isolated from normal and hairy roots. Gas chromatog./mass spectrometry anal. showed the oil produced by transformed cultures to be a mixt. of 16 compns. with only one major component representing 37% of the oil content.

L18 ANSWER 16 OF 21 CAFLOS COPYRIGHT 2001 AIC

AB Phosphoenol pyruvate carboxylase (EC 4.1.1.1) is a key enzyme in C<sub>4</sub>-dicarboxylic assimilation, and imparts a wealth of advantage to the photosynthetic properties of C<sub>4</sub> plants. The genetic transfer of C<sub>4</sub>-photosynthetic system, esp. PEPCase, into C<sub>3</sub> plant became a potential approach to improve the plant synthetic rate of C<sub>3</sub> plants. In this paper, a C<sub>4</sub>-PEPCase cDNA from *Secale cereale* was transferred into a C<sub>3</sub> plant tobacco, and a transgenic plant was constructed for further studies on the expression of C<sub>4</sub>-PEPCase gene in C<sub>3</sub> plant as well as the modulation of photosynthetic system in C<sub>3</sub> plants. A 2.0 kb fragment of C<sub>4</sub>-PEPCase cDNA derived from a maize PEPCase cDNA clone pEPD3-55 was subcloned into binary vector **pBin19**, and transinjected into *Agrobacterium tumefaciens* retaining vir helper plasmid LBA4404 by means of 'tri-parental mating'. Then the engineering plasmid pEPD2 harboring C<sub>4</sub>-PEPCase cDNA was transformed into the leaf disk of tobacco by co-culture with transconjugated *A. tumefaciens*. Anticancer screening yielded a batch of transformants resistant to kanamycin and the regenerated transgenic tobacco was obtained. The assay for **neomycin** phosphotransferase II (NPT II) showed a frequency of 20%, implying that the C<sub>4</sub>-PEPCase cDNA neighboring the NPT II gene might have been transferred into tobacco cell. Southern blotting anal. provided further evidence that the PEPCase cDNA was stably integrated into the tobacco genome, promising the possibility of getting substantial expression of C<sub>4</sub>-PEPCase gene in C<sub>3</sub> plants.

L19 ANSWER 17 OF 21 CAFLOS COPYRIGHT 2001 AIC

AB In vitro regeneration and bioticidal transformation procedures were developed for several com. *Chrysanthemum coronarium* L. var. *Grandiflora* Tzvelev, syn. *Thrysanthemum coronarium* Lam. cultivars using leaf and stem explants. Studies on the effect of several growth regulators and kanamycin on chrysanthemum regeneration were conducted, and a step-wise procedure to optimize kanamycin selection and recovery of transgenic plants was developed. A population of putative transgenic chrysanthemum plants was obtained. A population of putative transgenic chrysanthemum plants cvs. Blush, Dark bronze Charm, Iridon, and Taza, was obtained after bombardment with tungsten microprojectiles coated with the binary plasmid **pBIN19** contg. the nucleocapsid (N) gene of *Turnip mosaic virus* (TSWV) and the marker gene **neomycin** phosphotransferase NPT II. PCR anal. of 15 putative transgenic plants selected on kanamycin indicated that the majority of the lines (89%) were transformed and contained both genes (71%). However, some transgenic lines contained only one of the genes: either the NPT II (15%) or the TSWV (N) gene (14%). Southern blot anal. on selected transgenic lines confirmed the integration of the TSWV (N) gene into the chrysanthemum genome. These results demonstrate the development of an efficient procedure to transfer genetic material into the chrysanthemum genome and selectively regenerate transgenic chrysanthemum plants at frequencies higher than previously reported.

L19 ANSWER 18 OF 21 CAFLOS COPYRIGHT 2001 AIC

AB A method for selecting transgenic plants based in the polymerase chain reaction (PCR) is proposed. It is applicable in primary screening of transgenic plants obtained by cotransformation with *Agrobacterium* which contains any vector carrying **neomycin** phosphotransferase genes from transposon Tn5 and *Streptomyces* (for example **pBIN19**). These genes confer kanamycin resistance in plants and bacteria resp. The absence of strong homol. between these two genes allows one to perform two PCRs in the same reaction mixt. Thus simultaneous selection of transgenic

plants and identification of Agrobacterium contamination are possible. A simple procedure for prep. small samples of plant DNA suitable for PCR analysis is also presented.

L18 ANSWER 19 OF 22 CAPLU'S COPYRIGHT 2002 ACS

AB The defective gene enc-din: **neomycin** phosphotransferase (NPTII) present in the binary plasmid vector, **pBin19**, was replaced with the wild-type (wt) gen. Plasmid vectors analogs to **pBin19**, pB121 and pBI101 were constructed carrying the gene encoding the wt NPTII enzyme activity.

L19 ANSWER 20 OF 22 CAPLU'S COPYRIGHT 2002 ACS

AB Cucumber (*Cucumis sativus L.*) petiole and leaf segments of two pickling genotypes were transformed with *A. tumefaciens* strain LBA 4404, an octopine Ti-plasmid deletion mutant that is avirulent (disarmed plasmid), but to which were added T-DNA inserts in binary plasmids (pBIN 19, ca. 10 kb, and pCGB 733, ca. 1.5 kb). Expression of **neomycin** phosphotransferase (NPT II) encoding resistance to the aminoglycoside kanamycin was used as a selectable marker. Factors which influenced the frequency of callus development on medium contg. kanamycin (75 mg/l-l) were explant size, bacterial concn., and length of exposure, co-cultivation period, and presence of acetylsyringone. The optimal procedure involved exposing segments of petiole (4-6 mm) or leaf (<0.5 cm<sup>2</sup>) segments to a bacterial suspension (10<sup>6</sup> cells/ml) + 10 μM acetylsyringone for 5 min, followed by a 48 h co-cultivation period on a tobacco feeder layer. Explants were placed on MS medium contg. 100 mg/l-l carbenicillin, 75 mg/l-l kanamycin, and NAA/BA (5.0/2.5 μM) or I,4-D/BA (5.0/1.0 μM) and subcultured twice, each after a 2-3 wk period, onto fresh media. The overall frequency of transformed callus was 20-50%; the frequency of plantlet regeneration from transformed callus was 4-15%. Twenty-one out of 13 individual plants recovered from two genotypes of pickling cucumber were NPT II pos. (transformation frequency of 78%). Copy no. of the NPT II gene insert (35S-NPT II-3' fragment, ca. 2.7 kb) in 3 transformed plants was estd. at 16 per haploid genome, indicative of multiple insertions within the cucumber genome. Multimers of the gene (visible as 4.4 and 6.6 kb fragments in Southern anal.) were detected in one plant, suggestive of tandem duplications or repeats. Recovery from a cross between this transformed plant and a nontransformed control showed segregation for the NPT II gene in dot-blot assays; at least 4 plants out of 13 were kanamycin pos. Copy no. in the progeny was variable, and ranges 0-10.

L19 ANSWER 21 OF 22 CAPLU'S COPYRIGHT 2002 ACS

AB Co-transformation of tobacco (*Nicotiana tabacum*) leaf explants with Agrobacterium chrysogenes harboring pBI121 and the binary vector **pBin19** was achieved at a frequency of 6%. The kanamycin-resistant hairy roots were cultured via a callusing phase to regenerate plants which were partially fertile when cut-crossed with wild-type pollen. Phenotypic and rci. anal. of the F1 progeny demonstrated the efficient segregation of the hairy root marker from the kanamycin resistance marker, enabling morphol. normal plants to be recovered which retained the binary vector marker gene. This co-transformation strategy provides a means of introducing non-selectable genes into plants in cases where antibiotic resistance markers are undesirable.

L19 ANSWER 22 OF 22 CAPLU'S COPYRIGHT 2002 ACS

AB Iso disarmed Ti-binary vectors in *A. tumefaciens* were used to produce viable transgenic strawberry plants. Fertile strawberry plants with a normal phenotype were regenerated after transformation with pBIN6, which carries genes for nopaline synthase (NOS) and **neomycin** phosphotransferase (NPTII) (conferring kanamycin resistance). The transfer and expression of the two genes was confirmed by Southern blot anal., the detection of nopaline synthase (NOS) activity in vegetative and reproductive tissues and rooting in vitro in the presence of kanamycin.

The nos gene continued to be expressed in glasshouse-grown plants many months after removal from in vitro growth conditions. After selfing the R0 plants nos segregated in the R1 progeny according to a 3:1 Mendelian ratio. In in vitro germinated seedlings there was complete correlation between the presence of nospaline synthase activity and the ability of leaf segments to produce callus on a medium contg. kanamycin. Transgenic clones that exhibited an abnormal phenotype assocd. with cytokinin overprodu. were produced when plants were transformed with pSSL, a deriv. of pBIN19 carrying both the nos gene and the ipt gene (carnitidin; the enzyme isopentenyltransferase). Shoots of these clones grew on hormone-free medium, could not be induced to root and their growth was unaffected by the presence of 50 .m...g/ml kanamycin in hormone-free media.

=> d 119 11-22  
YOU HAVE REQUESTED DATA FROM FILE 'AGRICOLA, BIOSIS, EMBASE, CAPLUS' - CONTINUE? (Y)/N:Y

- L19 ANSWER 11 OF 22 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1346376001 BIOSIS  
DN BA 0:62856  
TI A RHODBACTERIUM-MEDIATED TRANSFORMATION OF THE CULTIVATED STRAWBERRY FRAGARIA-ANANASCA LUCH. USING DISARMED BINARY VECTORS.  
AU JAMES D J; PASSEY A J; BAKERA D J  
CS INST. HORTICULTURAL RESEARCH, EAST MALLING, MAIDSTONE, KENT, ME19 6BJ, UK.  
SO PLANT SCI. (LIMERICK), (1991) 69 (1), 79-94.  
ISSN: 0378-1342. CODEN: C168-9452.  
FS BA; OLD  
LA English
- L19 ANSWER 12 OF 22 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
AN 94529C67 EMBASE  
DN 10-64529067  
TI Screening of transgenic plants using polymerase chain reaction.  
AU Radegimov I.; Shilpa O.A.; Shryabin K.G.  
CS Centre of Bioengineering, Russian Academy of Sciences, Moscow 117984, Russian Federation  
SO Molekulyarnaya Biologiya, (1993) 27/4 (947-951).  
ISSN: 0826-8994 CODEN: MOBIBD  
CY Russian Federation  
DT Journal; Article  
FS C14 Human Genetics  
C18 Clinical Biochemistry  
LA Russian  
SL English; Russian
- L19 ANSWER 13 OF 22 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
AN 94130348 EMBASE  
DN 14913030348  
TI Modified binary plant transformation vectors with the wild-type gene encoding NPTII.  
AU Jantia P.S.S.; Farmerlindl J.K.; Parchuk B.; Pelther L.E.; Keller W.  
TS Plant Biotechnology Institute, 110 Gymnasium Road, Saskatoon, Sask. S7N 0L8, Canada  
SO Gene, (1992) 132/1 (383-384).  
ISSN: 0378-1119 CODEN: GENED6  
CY Netherlands  
DT Journal; Article  
FS C14 Microbiology  
LA English  
SL English

L18 ANSWER 14 OF 12 CAPIUS COPYRIGHT 2002 ACS  
AN 14:467456 CAPLIUS  
DN 14:467456  
TI Agrobacterium tumefaciens versus biolistic-mediated transformation of the chrysanthemum cvs. Polaris and Golden Polaris with nucleocapsid protein genes of three tospovirus species  
AU Yepez, L. M.; Mittak, V.; Slightom, J. L.; Pang, S.-Z.; Gonsalves, D.  
CS Department of Plant Pathology, Cornell University New York State Agricultural Experiment Station, Geneva, NY, 14456, USA  
SO Acta Horticulturae (1999), 482(International Symposium on Cut Flowers in the Tropics, 1997), 209-218  
Coden: AHORAI; ISSN: 0567-7572  
PB International Society for Horticultural Science  
DT Journal  
LA English  
RE.CNT 27 THERE ARE 27 CITEE REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 15 OF 12 CAPIUS COPYRIGHT 2002 ACS  
AN 14:467456 CAPLIUS  
DN 14:467456  
TI Agrobacterium-mediated transformation of Artemisia absinthium (wormwood) and prediction of secondary metabolites  
AU Neri, S.; Benelli, A.; Roselli, G.; Maricchi, D.; Schiffi, S.; Magherini, R.  
CS Dipartimento di Biofisica e Biologia, Universita Firenze, Florence, I-50144, Italy  
SO Plant Cell Reports (1997), 16(10), 725-730  
Coden: PCREP; ISSN: 0721-7714  
PB Springer  
DT Journal  
LA English  
L19 ANSWER 16 OF 12 CAPIUS COPYRIGHT 2002 ACS  
AN 14:468000 CAPLIUS  
DN 14:468000  
TI Ti plasmid-mediated transformation of tobacco with C4-PEPCase cDNA from Zea mays  
AU Deng, Long-Ying; Ling, Jun; Wang, Chao-Ming; Shi, Jiao-Nai  
CS Shanghai Institute of Plant Physiology, Chinese Academy of Sciences, Shanghai, 200032, Peop. Rep. China  
SO Zhou Shennan Huabao (1995), 21(3), 281-8  
Coden: CHSPCA; ISSN: 0257-4829  
DT Journal  
LA Chinese

L19 ANSWER 17 OF 12 CAPIUS COPYRIGHT 2002 ACS  
AN 14:467412 CAPLIUS  
DN 14:467412  
TI Biolistic transformation of chrysanthemum with the nucleocapsid gene of turnip spotter wilt virus  
AU Yepez, Luz Marcela; Mittak, Veronica; Pang, Shenk-Zhi; Gonsalves, Carol; Slightom, Jerry L.; Gonsalves, Dennis  
CS Dep. Plant Pathology, Cornell Univ., Geneva, NY, 14456, USA  
SO Plant Cell Rep. (1995), 14(11), 694-8  
Coden: PCREP; ISSN: 0721-7714  
DT Journal  
LA English

L19 ANSWER 18 OF 12 CAPIUS COPYRIGHT 2002 ACS  
AN 14:4661648 CAPLIUS  
DN 14:4661648  
TI Screening of transgenic plants using polymerase chain reaction  
AU Padegimus, L.; Shulga, C. A.; Skryabin, K. G.  
CS Inst. Biolog., Moscow, 117824, Russia

- SO Mol. Biol. (Moscow) (1993), 27(4), 947-51  
CODEN: MDPBIB; ISSN: 0026-8934  
DT Journal  
LA Russian
- L19 ANSWER 19 OF 22 CAPIUS COPYRIGHT 2002 ACS  
AN 1993:95283 CAPIUS  
DN 113:95283  
TI Modified binary plant transformation vectors with the wild-type gene  
encoding NPTII  
AU Latta, Paul S. S.; Hammerling, Joe K.; Panchuk, Barry; Pelchcr, Lawrence  
E.; Keller, Will  
CS Plant Biotechnol. Inst., Natl. Res. Council, Saskatoon, SK, S7N 6W9,  
Can.  
SO Gene (1992), 122(2), 383-4  
Coden: CENED6; ISSN: 0378-1119  
DT Journal  
LA English
- L19 ANSWER 20 OF 22 CAPIUS COPYRIGHT 2002 ACS  
AN 1992:95161 CAPIUS  
DN 113:95161  
TI Factors influencing Agrobacterium tumefaciens mediated transformation and  
expression of kanamycin resistance in pickling cucumber  
AU Saccento, G. G.; Alpert, K.; Tang, F. A.; Punja, Z. K.  
CS Campbell Inst. Res. Technol., Campbell Soup Co., Davis, CA, 95616, USA  
SO Plant Cell, Tissue Organ Cult. (1992), 31(3), 185-93  
Coden: PTCEDJ; ISSN: 0167-4857  
DT Journal  
LA English
- L19 ANSWER 21 OF 22 CAPIUS COPYRIGHT 2002 ACS  
AN 1990:564749 CAPIUS  
DN 113:166749  
TI Recovery of morphologically normal transgenic tobacco from hairy roots  
co-transformed with Agrobacterium rhizogenes and a binary vector plasmid  
AU Halamctt, H.; Boultier, M. E.; Shirsat, A. H.; Croy, E. J.; Ellis, J. R.  
CS Deg. Biol. Sci., Univ. Durham, Durham, RG12 6EY, UK  
SO Plant Cell Rep. (1990), 9(2), 88-92  
Coden: PCRFD8; ISSN: 0721-7714  
DT Journal  
LA English
- L19 ANSWER 22 OF 22 CAPIUS COPYRIGHT 2002 ACS  
AN 1990:510407 CAPIUS  
DN 113:110407  
TI Agrobacterium-mediated transformation of the cultivated strawberry  
(Fragaria ananassa Duch.) using disarmed binary vectors  
AU James, David J.; Passey, Andrew J.; Barbara, Derek J.  
CS Inst. Hortic. Res., Maidstone/Kent, ME19 6BJ, UK  
SO Plant Sci. (Limerick, Irel.) (1990), 69(1), 79-94  
Coden: PLSCB4; ISSN: 0168-9452  
DT Journal  
LA English

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NEWS	5	Feb 19 Access via Tymnet and SprintNet Eliminated Effective 3/31/02
NEWS	6	Mar 06 Gene Names now available in BIOSIS
NEWS	7	TOXLIB no longer available
NEWS	8	TRICTHERMP no longer available
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NEWS	17	Apr 20 BIOSIS Gene Names now available in TOXCENTER
NEWS	18	Apr 21 Federal Research in Progress (FEDRIP) now available
NEWS	19	Jun 03 New e-mail delivery for search results now available
NEWS	20	Jun 11 NEILLINE Rel ad
NEWS	21	Jun 11 IFIPATFULL has been released
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=> s X69322  
L1 6 X69322

=> d 11 1-6

L1 ANSWER 1 OF 6 AGRICOLA  
AN 94:9538 AGRICOLA  
DN PREV19900123956  
TI Molecular characterization of a cDNA clone encoding glutamine synthetase from a gymnosperm, *Pinus sylvestris*.  
AU Canton, F.R.; Garcia-Gutierrez, A.; Gallardo, F.; Vicente, A. De; Canovas, F.M.  
AV ENAL (QK711.P62)  
SO Plant molecular biology, Aug 1993, Vol. 22, No. 5, p. 819-828  
Publisher: Dordrecht : Kluwer Academic Publishers.  
Coden: PMBIDE; ISSN: 0167-4412  
NTE Includes references  
CY Netherlands  
DT Article  
FS Non-U.S. Imprint other than FAO  
LA English

L1 ANSWER 2 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1993:419148 BIOSIS  
DN PPEV19900123956  
TI The U6 snrRNA nuclear RNA gene family of potato.  
AU Guerineau, T. (1); Waugh, R.  
CS (1) Dep. Botany, Univ. Leicester, University Road, Leicester LE1 7RH UK  
SO Plant Molecular Biology, (1993) Vol. 22, No. 5, pp. 807-818.  
ISSN: 0167-4412.  
DT Article  
LA English

L1 ANSWER 3 OF 6 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1993:419148 BIOSIS  
DN PPEV19900123956  
TI Molecular characterization of a cDNA clone encoding glutamine synthetase from a gymnosperm, *Pinus sylvestris*.  
AU Canton, Francisco R.; Garcia-Gutierrez, Angel; Gallardo, Fernando; De Vicente, Antonio; Canovas, Francisco M. (1)  
CS (1) Lab. Biopintmica Biología Molecular, Univ. Malaga, E-29071 Malaga Spain  
SO Plant Molecular Biology, (1993) Vol. 22, No. 5, pp. 819-828.  
ISSN: 0167-4412.  
DT Article  
LA English

L1 ANSWER 4 OF 6 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.  
AN 1993:1763 EMBASE  
TI The glutamine synthetases of rhizobia: Phylogenetics and evolutionary implications.  
AU Turner S.L.; Young J.P.W.

GS S.L. Turner, Department of Biology, University of York, P.O. Box 373, York  
YO10 5YW, United Kingdom. slt@york.ac.uk  
PC Molecular Biology and Evolution, (2000) 17/2 309-319.  
Refs: 41  
ITSM: 0737-4048 MODEM: MBEVE

CY United States  
PT Journal; Article  
FS 0737 Microbiology  
LA English  
SL English.

L1 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2002 ACS  
AN 2000:133864 CAPLUS  
DN 132:16203  
TI Poplar trees containing a constitutively expressed pine glutamine synthetase transgene for improved nitrogen metabolism  
IN Kirby, Edward G.; Canovas Ramis, Francisco; Gallardo Alba, Fernando  
PA Rutgers, the State University of New Jersey, USA  
SO PCT Int. Appl., 50 pp.

CODEN: PIKNDI

DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	FINI	DATE	AFFILIATION NO.	DATE
PI	WO 200001324	A1	20000114	WO 1999-US18267	19990811
				W: AE, AL, AN, AT, AU, BA, BE, BG, BF, BY, CA, CH, CN, CR, CU, DE, DK, ES, FI, FR, IM, IS, IT, JP, KZ, KE, KR, LT, LU, LV, MD, ME, MN, MR, MW, NZ, PL, PT, RU, SD, SE, SG, SI, SK, SL, TM, TR, TI, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, EG, EG, IM, IN, IT, JM FW: CH, CM, DE, IS, IM, SI, SI, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GE, GE, IR, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, DM, GA, GR, GW, IM, MF, NE, SN, TE, TG	
				AU 9957734	AU 1994-57734 19990811
FRAI	US 1998-04031P	P	19980311		
	WO 1999-US18267	W	19990811		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE FE FORMAT

L1 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2002 ACS  
AN 1995:663864 CAPLUS  
DN 119:262854  
TI Molecular characterization of a cDNA clone encoding glutamine synthetase from a gymnosperm, *Pinus sylvestris*  
AU Cantón, Francisco R.; García-Gutiérrez, Ángel; Gallardo, Fernando; de Vicente, António; Canovas, Francisco M.  
CS Fac. Cienc., Univ. Málaga, Málaga, E-29071, Spain  
SO Plant Mol. Biol. (1993), 22(5), 819-28  
CODEN: PMBUD; ISSN: 0167-4412  
DT Journal  
LA English

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FULL ESTIMATED COST

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-> s glutamine(k synthetase and plant  
L2 3064 GLUTAMINE(K SYNTHETASE AND PLANT

=> s l1 and gymnosperm  
L3 54 L2 AND GYMNOSPERM

=> s l3 and pinus  
L4 16 L3 AND PINUS

=> s l4 and transform?  
L5 2 L4 AND TRANSFORM?

--> d 11 1-2

L1 ANSWER 1 OF 2 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2001:071:63 BIOSIS  
DN PREV2001071362  
TI The promoter of a cytosolic **glutamine synthetase** gene  
from the conifer **Pinus sylvestris** is active in cotyledons of  
germinating seeds and light-regulated in transgenic *Arabidopsis thaliana*.  
AU Avila, Concepcion.; Cantin, Francisco R.; Barnestein, Pilar; Suarez,  
Maria-Fernanda; Marraccini, Pierre; Rey, Manuel; Humara, Jaime M.; Ordas,  
Ficardi; Canovas, Francisco M. (1)  
CS (1) Departamento de Fisiología Molecular y Bioquímica, Instituto Andaluz de  
Fisiología, Unidad Asociada UMA-CSIC, Universidad de Málaga, E-29071,  
Málaga; canovas@uma.es Spain  
SO *Physiologia Plantarum*, (July, 2001) Vol. 112, No. 3, pp. 388-396. print.  
ISSN: 0031-9811".  
DT Article  
LA English  
SL English

L1 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS  
AN 2000:133864 CAPLUS  
DN 132:162939  
TI Poplar trees containing a constitutively expressed pine **glutamine synthetase** transgene for improved nitrogen metabolism  
IN Kirby, Edward G.; Canovas Ramos, Francisco; Gallardo Alba, Fernando  
PA Rutgers, the State University of New Jersey, USA  
SC SCI Int. Appl., 50 pp.  
DOIEN: PIXXDB  
CT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000009726	A1	20000224	WO 1999-US19267	19990811
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IM, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MT, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, L, TR, TM, TR, TW, UA, US, CZ, UK, YU, ZA, ZW, AM, AZ, BY, BG, PT, MD, RS, TJK, TM PWR: GH, MI, PE, LS, MN, SB, SL, SZ, UC, JW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SF, BJ, CF, CG, SI, SM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9957734	A1	20000306	AU 1999-57734	19990811
PRAI US 1999-96031P	P	19990811		
WO 1999-US19267	W	19990811		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 14 l-10

MISSING OPERATOR 14 l-10

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> d 14 l-10

L4 ANSWER 1 OF 36 AGRICOLA  
AN 1993:6143 AGRICOLA  
DN IND21231710  
TI Two different modes of early development and nitrogen assimilation in  
gymnosperm seedlings.  
AU Garcia-Gutierrez, A.; Dubois, F.; Canton, F.R.; Gallardo, F.; Sangwan,  
F.S.; Canovas, F.M.  
AV DNAI (QX710.F63)  
SO The Plant journal : for cell and molecular biology, Jan 1993, Vol. 13, No.  
2, p. 187-194  
Publisher: Oxford : Blackwell Sciences Ltd.  
ISSN: 0960-7412  
NTE Includes references  
CY England; United Kingdom  
DT Article  
FS Non-U.S. Imprint other than FAC  
LA English

L4 ANSWER 2 OF 36 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2001:271033 BIOSIS  
DN PRB726010621033  
TI Molecular and enzymatic analysis of ammonium assimilation in woody  
plants.  
AU Suarez, Maria Fernanda; Avila, Concepcion; Gallardo, Fernando; Canton,  
Francisco R.; Garcia-Gutierrez, Angel; Gonzalo Claros, M.; Canovas,  
Francisco M. M.  
CS (1) Departamento de Biología Molecular y Bioquímica, Instituto Andaluz de  
Biotecnología, Unidad Asociada UMA-CSIC, Universidad de Málaga, E29071,  
Málaga; canovas@uma.es Spain  
SO Journal of Experimental Botany, (April, 2002) Vol. 53, No. 370, pp.  
891-904. http://jxb.oupjournals.org. print.  
ISSN: 0022-0957.  
DT Article  
LA English

L4 ANSWER 3 OF 36 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 2002:36:220 BIOSIS  
DN PFEV20020036820  
TI Effect of nitrogen stress on growth, soluble metabolites, and glutamine synthetase activity of jack pine callus cultures.  
AU Carballip Rivero, Gilda; Tremblay, M.-Francine (1); Charest, Christiane; Laliberte, Sylvie.  
CS (1) Chaire AFP, Département des sciences appliquées, Université du Québec en Abitibi-Témiscamingue, 445 boul. de l'Université, Rouyn-Noranda, QC, J9X 5E4; francois.tremblay@uqat.ca Canada  
SO Journal of Plant Nutrition, (March, 2002) Vol. 25, No. 3, pp. 443-455.  
http://www.dakker.com/servlet/product?productid=JPN.print.  
ISSN: 0190-4167.  
DT Article  
LA English

L4 ANSWER 4 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2001:37:1-62 BIOSIS  
DN PFEV2001010371-62  
TI The promoter of a cytosolic glutamine synthetase gene from the conifer *Pinus sylvestris* is active in cotyledons of germinating seeds and light-regulated in transgenic *Arabidopsis thaliana*.  
AU Avila, Concepcion; Canton, Francisco R.; Barnestein, Pilar; Suarez, Maria-Fernanda; Marraccini, Pierre; Rey, Manuel; Humara, Jaime M.; Ordua, Ricardo; Canovas, Francisco M. (1)  
CS (1) Departamento de Biología Molecular y Bioquímica, Instituto Andaluz de Biotecnología, Unidad Asociada UMA-CSIC, Universidad de Málaga, E-29071, Málaga; canovas@uma.es Spain  
SO Physiologia Plantarum, (July, 2001) Vol. 112, No. 3, pp. 388-396. print.  
ISSN: 0031-9317.  
DT Article  
LA English  
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L4 ANSWER 5 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
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DN PFEV2001010192-1-3  
TI Effect of phosphinotrichicin herbicide on nitrogen metabolism in *Pinus radiata* and *Laccaria bicolor*.  
AU Gonzalez-Escalr, M. E.; Iribarri, N.; Llunakiitia, M. F.; Lequerre-Belarain, I.; Gonzalez-Murcia, C. (1)  
CS (1) Department of Plant Biology and Ecology, University of The Basque Country, E-43080, Bilbao; gvgcmob@iq.edu.es Spain  
SO Plantae (Hil., 1900) Vol. 43, No. 4, pp. 71-77. print.  
ISSN: 0079-2447.  
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L4 ANSWER 6 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2001:16:110 BIOSIS  
DN PFEV200101016-110  
TI Spatial and temporal expression of two cytosolic glutamine synthetase genes in Scots pine: Functional implications on nitrogen metabolism during early stages of conifer development.  
AU Avila, Concepcion; Suarez, Maria Fernanda; Gomez-Maldonado, Josefa; Canovas, Francisco M. (1)  
CS (1) Departamento de Biología Molecular y Bioquímica, Facultad de Ciencias, Instituto Andaluz de Biotecnología, Universidad de Málaga, Campus Universitario de Teatinos s/n, E-29071, Málaga; canovas@uma.es Spain  
SO Plant Journal, (January, 2001) Vol. 25, No. 1, pp. 93-102. print.  
ISSN: 0960-7412.  
DT Article  
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- L4 ANSWER 7 OF 36 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
- AN 2000:398481 BIOSIS
- DN PRFV200000398481
- TI Two genes encoding distinct cytosolic **glutamine synthetases** are closely linked in the pine genome.
- AU Atoui Saen, Comptepon; Munoz-Chapilli, Ramon; Plomion, Christophe; Frigerio, Jean-Luc; Canovas, Francisco M.
- CS (1) Departamento de Biología Molecular y Bioquímica, Facultad de Ciencias e Instituto Andaluz de Biotecnología, Universidad de Málaga, Campus de Teatinos s/n, E-29071, Málaga Spain
- SO FEBS Letters, (31 July, 2000) Vol. 477, No. 3, pp. 237-243. print.  
ISSN: 0014-5793.
- DT Article
- LA English
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- L4 ANSWER 8 OF 36 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
- AN 2000:377945 BIOSIS
- DN PRFV200000377945
- TI Compression wood-responsive proteins in developing xylem of maritime pine (*Pinus pinaster* Ait.).
- AU Plomion, Christophe (1); Pionneau, Cédric; Brach, Jean; Costa, Paulo; Bailleres, Henri
- CS (1) Equipe de Génétique et Amélioration des Arbres Forestiers, Institut National de la Recherche Agronomique, 33610, Pierrotin France
- SO Plant Physiology (Rockville), (July, 2000) Vol. 123, No. 3, pp. 959-969. print.  
ISSN: 0032-0889.
- DT Article
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- L4 ANSWER 9 OF 36 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
- AN 2000:360712 BIOSIS
- DN PRFV200000360712
- TI Expression analysis of a cytosolic **glutamine synthetase** gene in cotyledons of Scots pine seedlings: Developmental, light regulation and spatial distribution of specific transcripts.
- AU Cánovas, Francisco R.; Suárez, María-Fernanda; José-Estanyol, Matilde; Cánovas, Francisco M. (1)
- CS (1) Laboratorio de Bioquímica y Biología Molecular, Facultad de Ciencias, Instituto Andaluz de Biotecnología, Universidad de Málaga, 29071, Málaga Spain
- SO Plant Molecular Biology, (July, 2000) Vol. 40, No. 4, pp. 623-634. print.  
ISSN: 0167-4417.
- DT Article
- LA English
- SL English
- L4 ANSWER 10 OF 36 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
- AN 1999:465647 BIOSIS
- DN PRFV199910465647
- TI Expression analysis of a cytosolic **glutamine synthetase** gene in cotyledons of Scots pine seedlings: Developmental, light regulation and spatial distribution of specific transcripts.
- AU Cánovas, Francisco R.; Suárez, María-Fernanda; José-Estanyol, Matilde; Cánovas, Francisco M. (1)
- CS (1) Laboratorio de Bioquímica y Biología Molecular, Facultad de Ciencias-Instituto Andaluz de Biotecnología, Universidad de Málaga, 29071, Málaga Spain
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LA English  
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L6 ANSWER 1 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2001:166110 BIOSIS  
DN PREV166110268220  
TI Molecular and enzymatic analysis of ammonium assimilation in woody  
plants.  
AU Suarez, María Fernanda; Avila, Concepcion; Callardo, Fernando; Canton,  
Francisco R.; Garcia-Gutierrez, Angel; Gonzalo Claro, M.; Canovas,  
Francisco M. (1)  
CS (1) Departamento de Biología Molecular y Bioquímica, Instituto Andaluz de  
Biotecnología, Unidad Asociada UMA-CSIC, Universidad de Málaga, E29071,  
Málaga; canavas@uma.es Spain  
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DT Article  
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L6 ANSWER 1 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2001:166110 BIOSIS  
DN PREV166110268220  
TI Effect of nitrogen stress on growth, soluble metabolites, and  
glutamine synthetase activity of jack pine callus  
cultures.  
AU Carrière, Pierre; Tremblay, M.-Frances (1); Charest, Christiane;  
Ialabotte, Sylvie  
CS (1) Cégep AFQ, Département des sciences appliquées, Université du Québec  
en Abitibi-Témiscamingue, 445 boul. de l'Université, Rouyn-Noranda, QC,  
J9X 5E6; francesine.tremblay@uqat.quebec.ca Canada  
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ISSN: 0190-4167.

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L6 ANSWER 1 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2001:171162 BIOSIS  
DN PREV171162031162  
TI The promoter of a cytosolic glutamine synthetase gene  
from the conifer *Pinus sylvestris* is active in cotyledons of  
germinating seeds and light-regulates in transgenic *Arabidopsis thaliana*.  
AU Avila, Concepcion; Canton, Francisco R.; Barnstein, Filar; Suarez,  
María-Fernanda; Marraccini, Pierre; Fey, Manuel; Humara, Jaime M.; Ordas,  
Francisco M. (1)  
CS (1) Departamento de Biología Molecular y Bioquímica, Instituto Andaluz de  
Biotecnología, Unidad Asociada UMA-CSIC, Universidad de Málaga, E-29071,  
Málaga; canavas@uma.es Spain  
SO Physiologia Plantarum, (July, 2001) Vol. 112, No. 3, pp. 388-396. print.  
ISSN: 0031-8317.

DT Article  
LA English  
SL English

L6 ANSWER 4 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2001:103110 BIOSIS  
DN PREV200101103110  
TI Spatial and temporal expression of two cytosolic **glutamine synthetase** genes in Scots pine: Functional implications on nitrogen metabolism during early stages of conifer development.  
AU Avila, Concepcion; Gómez, María Fernanda; Gómez-Maldonado, Josefina;  
Canoval, Francisco M. (I)  
CS (I) Departamento de Biología Molecular y Bioquímica, Facultad de Ciencias,  
Instituto Andaluz de Biología, Universidad de Málaga, Campus  
Universitario de Teatinos s/n, E-29071, Málaga; canovas@uma.es Spain  
SO Plant Journal, (January, 2001) Vol. 26, No. 1, pp. 93-102. print.  
ISSN: 0960-7412.

DT Article  
LA English  
SL English

L6 ANSWER 5 OF 32 CAPLUS COPYRIGHT 2002 ACS  
AN 2000:1:3964 CAPLUS  
DN 132:16, 033  
TI Poplar trees containing a constitutively expressed pine **glutamine synthetase** transgene for improved nitrogen metabolism  
IN Kirby, Edward S.; Canovas Ramírez, Francisco; Gallardo Alba, Fernando  
FA Rutgers, the State University of New Jersey, USA  
SO PCT Int. Appl., 50 pp.  
CODEN: PIKXDJ

DT Patent  
LA English

FAN.CNT 1

	PATENT NO.	NAME	DATE	APPLICATION NO.	DATE
PI	WO 2000003726	AI	20000324	WO 1999-US18267	19990811
		W:	AE, AL, AM, AT, AU, AR, BA, BE, BG, BY, CA, CH, CN, CR, CU, CY, DE, DK, ES, FI, GE, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, LC, LF, LS, LT, LU, LV, MD, MG, MR, MN, MM, MX, NC, NZ, PL, PT, RU, SD, SE, SG, SI, SK, SL, TM, TR, TT, VA, UG, US, VN, YU, ZA, ZW, AM, AZ, BY, EG, ME, MU, RW, TG, TM EW: BH, CM, KE, LS, MW, SD, SL, SE, SG, RW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GE, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG		
	AU 9957734	AI	20000306	AU 1994-57734	19990811
PRAI	US 1998-96031P	P	19980811		
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L6 ANSWER 6 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2000:1:37485 BIOSIS  
DN PREV200101103110  
TI Compressions wood-responsive proteins in developing xylem of maritime pine (*Pinus pinaster* Ait.)  
AU Plomelin, Christophe (I); Pionneau, Cédric; Brach, Jean; Costa, Paul; Bailleres, Henri  
CS (I) Équipe de Génétique et Amélioration des Arbres Forestiers, Institut National de la Recherche Agronomique, 33610, Pierrefonds France  
SO Plant Physiology (Rockville), (July, 2000) Vol. 123, No. 3, pp. 959-969.  
print.  
ISSN: 0032-0889.

DT Article  
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SL English

- L6 ANSWER 7 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2000:366712 BIOSIS  
DN PREV200000366712  
TI Expression analysis of a cytosolic **glutamine synthetase**  
gene in cotyledons of Scots pine seedlings: Developmental, light  
regulation and spatial distribution of specific transcripts.  
AU Canton, Francisco R.; Suarez, Maria-Fernanda; Jose-Estanyol, Matilde;  
Canovas, Francisco M. (1)  
CS (1) Laboratorio de Bioquimica y Biologia Molecular, Facultad de Ciencias,  
Instituto Andaluz de Biotecnologia, Universidad de Malaga, 29071, Malaga  
Spain  
SO Plant Molecular Biology, (July, 2000) Vol. 40, No. 4, pp. 623-634. print.  
ISSN: 0167-4412.  
DT Article  
LA English  
SL English
- L6 ANSWER 8 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
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AN 2000:398431 BIOSIS  
DN PREV200000398431  
TI Two genes encoding distinct cytosolic **glutamine synthetases** are closely linked in the pine genome.  
AU Avila Saez, Carpcion (1); Munoz-Chapuli, Ramon; Flomion, Christophe;  
Frigaric, Jean-Marc; Canovas, Francisco M.  
CS (1) Departamento de Biología Molecular y Bioquímica, Facultad de Ciencias  
e Instituto Andaluz de Biotecnología, Universidad de Málaga, Campus de  
Teatinos s/n, E-29071, Málaga Spain  
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ISSN: 0014-5793.  
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LA English  
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- L6 ANSWER 9 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 2001:192373 BIOSIS  
DN PREV200100192373  
TI Effect of phosphenothricin herbicide on nitrogen metabolism in  
*Pinus radiata* and *Laccaria bicolor*.  
AU Gonzalez-Novo, M. P.; Iribarri, N.; Dunekert, M. K.;  
Izquierdo-Belkhiria, I.; Gonzalez-Murua, C. (1)  
CS (1) Department of Plant Biology and Ecology, University of The Basque  
Country, E-410 06, Bilbao, cypgcomib@lg.ehu.es Spain  
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ISSN: 0179-1047.  
DT Article  
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- L6 ANSWER 10 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1999:455647 BIOSIS  
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TI Expression analysis of a cytosolic **glutamine synthetase**  
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Canovas, Francisco M. (1)  
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Ciencias-Instituto Andaluz de Biotecnologia, Universidad de Malaga, 29071,  
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DT Article  
LA English

SL English

L6 ANSWER 11 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1998:34420 BIOSIS

DN PFEV199803486420

TI Effects of phosphinotricin treatment on glutamine synthetase isoforms in Scots pine seedlings.

AU Avila, Concepcion; Garcia-Gutierrez, Angel; Crespillo, Remedios; Canovas, Francisco M. (1)

CS (1) Lab. Bioprim. Biol. Mol., Fac. Ciencias-inst. Andaluz Biotechol., Univ. Malaga, Campus de Teatinos, 29071 Malaga Spain

SO Plant Physiology and Biochemistry (Paris), (Dec., 1998) Vol. 36, No. 12, pp. 357-363.

ISSN: 0921-3428.

DT Article

LA English

L6 ANSWER 11 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1998:316187 BIOSIS

DN PFEV19980316187

TI Purification and characterization of NADP+-linked isocitrate dehydrogenase from Scots pine: Evidence for different physiological roles of the enzyme in primary development.

AU Palomo, Jesus; Gallardo, Fernando (1); Suarez, Maria F.; Canovas, Francisco M.

CS (1) Lab. Biodegumica Biol. Molecular, Fac. Ciencias, Univ. Malaga, E-29071 Malaga Spain

SO Plant Physiology (Rockville), (Oct., 1998) Vol. 118, No. 2, pp. 617-626.

ISSN: 0140-3499.

DT Article

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AN 1997:31543 AGRICOLA

DN INI:130711

TI Two different modes of early development and nitrogen assimilation in gymnosperm seedlings.

AU Garcia-Gutierrez, A.; Dubois, F.; Canton, F.F.; Gallardo, F.; Sangwan, F.S.; Canovas, F.M.

AV DNA (QF710.F68)

SC The Plant journal : for cell and molecular biology, Jan 1998. Vol. 13, No. 2, p. 187-198

Publisher: Oxford : Blackwell Sciences Ltd.

ISSN: 0960-7413

NTE Includes references

CY England; United Kingdom

DT Article

FS Non-U.S. Imprint other than FAC

LA English

DUPPLICATE 2

L6 ANSWER 13 OF 32 CAPLUS COPYRIGHT 2002 ACS

AN 1998:22699 CAPLUS

DN I26:3C4-d

TI Tandem cDNA sequences are highly conserved among eukaryotic genomes

AU Eustace, L. J.; Kinlaw, C. S.; Williams, C. G.

CS Department of Biochemistry & Biophysics-Genetics, Texas A and M University, College Station, TX, 77843, USA

SO Texas Journal of Science (1998), 50(1), 75-84

CNDEM: TJSCHW; ISSN: 0040-4403

PB Texas Academy of Science

DT Journal

LA English

L6 ANSWER 15 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1996:484237 BIOSIS  
DN PREV199609200093  
TI High-level expression of **Pinus sylvestris glutamine synthetase** in *Escherichia coli*: Production of polyclonal antibodies against the recombinant protein and expression studies in pine seedlings.  
AU Canton, Francisco R. (1); Garcia-Gutierrez, Angel; Crespillo, Carmelita;  
Canillas, Francisco (1)  
CS (1) Lab. Biocat. Biol. Mol., Fac. Ciencias, Univ. de Malaga, E-29071  
Málaga Spain.  
SO FEBS Letters, (1996) Vol. 393, No. 2-3, pp. 205-210.  
ISSN: 0014-5793.  
DT Article  
LA English

L6 ANSWER 16 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1995:430169 BIOSIS  
DN PREV199507050591  
TI Interactions of elevated CO<sub>2</sub>, NH<sub>3</sub> and C<sub>3</sub> on mycorrhizal infection, gas exchange and N metabolism in saplings of Scots pine.  
AU Pelizzetti, Maria (1); Deneck, Thomas A.; Fuglsig, Gigliola; Kuiper, Pieter J. P.  
CS (1) Dep. Biop. Med. Sci., Res. Inst. Agrobiol. Soil Fertility (AP-BIO),  
P.O. Box 14, Bornsesteeg 63, 6700 AA Wageningen Netherlands  
SO Plant and Soil, (1995) Vol. 176, No. 1, pp. 17-116.  
ISSN: 0031-938X.  
DT Article  
LA English

L6 ANSWER 17 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1995:446831 BIOSIS  
DN PREV1995091040961  
TI Regulation of **glutamine synthetase** gene expression in Scots pine (*Pinus sylvestris* L.) seedlings.  
AU El-limper, Martin W. (1); Mohr, Hans  
CS (1) Section Paediatric Endocrinol., Kinderklinik Eberhard-Karls-Univ.,  
Rudolf-Breitscheid-Strasse 19-23, D-72070 Tuebingen Germany  
SO Nova Acta Leopoldina, 1994; Vol. 70, No. 288, pp.  
101-111. Nova Acta Leopoldina; The terrestrial nitrogen cycle as  
influenced by man.  
Publ.-info: Deutsche Akademie der Naturforscher Leopoldina  
Anhalt-Pyrmontstrasse 50a, Halle (Saale), Germany.  
Meeting info.: Symposium Halle/Saale, Germany September 29-October 1, 1993  
ISBN: 3-930-3634. ISBN: 3-935-00417-5.  
DT Book; Conference  
LA English

L6 ANSWER 18 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1995:44244 BIOSIS  
DN PREV199508198514  
TI Nitrogen metabolism in cultured cotyledon explants of **Pinus radiata** during de novo organogenesis.  
AU J. y. Richard W. Iv; Bender, Ludwig; Thrope, Trevor A. (1)  
CS (1) Plant Physiol. Res. Group, Dep. Biol. Sci., Univ. Calgary, Calgary, AB  
T2N 1N4 Canada  
SO Physiologia Plantarum, (1994) Vol. 92, No. 4, pp. 681-688.  
ISSN: 0031-9311.  
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LA English

L6 ANSWER 19 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
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DN PREV199407275506  
TI Effect of atmospheric ammonia on the nitrogen metabolism of Scots pine.

- AU Perez-Soba, M. (1); Stulen, I.; Van Der Eerden, L. J. M.  
C1 (1) Dep. Plant Physiol., Res. Inst. Agrobiol. and Soil Fertility, P.O. Box  
DN 14, Bornsesteeg 65, 6700 AA Wageningen Netherlands  
SO Physiologia Plantarum, (1994) Vol. 91, No. 4, pp. 629-636.  
ISSN: 0031-9317.
- DT Article  
LA English
- ANSWER TO OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
1994:48:486 B103 S  
PMEV1994:115(25/06)
- TI Combined effects of gaseous ammonia and sulphur dioxide on the nitrogen metabolism of the needles of Scots pine trees.
- AU Perez-Soba, Marta (1); Van Der Berden, Ludger; Stulen, Ineke  
C1 (1) Dep. Plant Physiol., Res. Inst. Agrobiol. Soil Fertility, P.O. Box 14,  
DN Bornsesteeg 65, 6700 AA Wageningen Netherlands  
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- ANSWER TO OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
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PMEV1994:414363
- TI Appearance of nitrate reductase, nitrite reductase and **glutamine synthetase** in different organs of the Scots pine (**Pinus sylvestris**) seedling as affected by light, nitrate and ammonium.
- AU Seith, Barbara; Setzer, Bernhard; Flraig, Helger; Mohr, Hans (1)  
C1 Botan. Inst. II, Univ. Freiburg, Schaezlestrasse 1, D-79104  
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- ANSWER TO OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
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PMEV1994:93(11)444
- TI Gaseous ammonia counteracts the response of Scots pine needles to elevated atmospheric carbon dioxide.
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Kuiper, Klaas J. C.  
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DN Bornsesteeg 65, 6700 AA Wageningen Netherlands  
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ISSN: 0028-643X.
- DT Article  
LA English
- ANSWER TO OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
1994:112:174 B103 S  
PMEV1994:88(11)612
- TI Enzymes of ammonium metabolism in ectoendomycorrhizal and entomycorrhizal symbionts of pine.
- AU Rudawski, Maria (1); Kieliszewska-Ratkiewicz, Barbara; Debaud, Jean-Claude;  
Lewandowski, Andrzej; Gay, Gilles  
C1 Inst. Dendrology, Polish Academy Sci., PL-62-035 Kornik Poland  
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- DT Article  
LA English

- L6 ANSWER 24 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1994:109779 BIOSIS  
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AU Elminger, M. W.; Bolle, C.; Batschauer, A.; Oelmüller, K.; Mohr, H. (1)  
CS (1) Biol. Inst. II der Univ., Schaezlestr. 1, D-79104 Freiburg i.Br., Germany  
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ISSN: 0031-185X.  
DT Article  
LA English
- L6 ANSWER 25 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1995:40111 BI SIS  
DN PREV199505161  
TI Activities and properties of glutamine synthetase and of glutamate dehydrogenase in scots pine needles (*Pinus sylvestris*) in relation to the habitat.  
AU Schied, Pieter (1); Lintemann, Herbert (1); Moeseker, Doreen (1); Thüerlinger, Carola (1); Jung, Klaus; Förstel, Hilmar (1) Martin-Luther-Univ. Halle-Wittenberg, Fachbereich Biotechnologie/Biochemie, Inst. Biochemie, Abt. Allgemeine Pflanzenökologie, Weinbergweg 16a, D-06120 Halle Germany  
SO Angewandte Botanik, (1994) Vol. 68, No. 3-4, pp. 89-94.  
ISSN: 0003-1754.  
DT Article  
LA German  
SL German; English
- L6 ANSWER 26 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1995:54117 BI SIS  
DN PREV199505198517  
TI Nitrogen metabolism of Douglas fir and Scots pine as affected by optimal nutritional and water supply under conditions of relatively high atmospheric nitrogen deposition.  
AU Perez-Silva, Marta (1); De Visser, Pieter H. B.  
CS (1) Dep. Plant Physiol., Res. Inst. Agrobiol. Soil Fertility, PO Box 14, NL-6700 AA Wageningen Netherlands  
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- L6 ANSWER 27 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
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AU Pietiläinen, Pekka  
CS Mihos Rec. Station Finnish Forest Res. Inst., FIN 91500 Muodos, Dep. Bot., Univ. Oulu, FIN-90150 Oulu Finland  
SO Acta Universitatis Ouluensis Series A Scientiae Rerum Naturalium, (1994) Vol. 1, No. 2 6, pp. 1-115, I-VIII.  
ISSN: 1235-3111.  
DT Article  
LA English
- L6 ANSWER 28 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.DUPLICATE  
AN 1995:40111 BI SIS  
DN PREV19950516123255  
TI Molecular characterization of a cDNA clone encoding glutamine synthetase from a gymnosperm, *Pinus*

AC sylvestris.  
AU Canton, Francisco R.; Garcia-Gutierrez, Angel; Gallardo, Fernando; De  
Vicente, Antoni ; Canovas, Francisco M. (1)  
CC (1) Iao, Biopurifica Biología Molecular, Univ. Malaga, E-29071 Malaga Spain.  
SO Plant Molecular Biology, (1993) Vol. 32, No. 5, pp. 819-828.  
ISSN: 0167-4412.  
DT Article  
LA English

L6 ANSWER 29 OF 31 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1993:233524 S1 SIS  
DN PREV1993951216\*\*  
TI Ammonium ion inhibition of **Pinus strobus** L. callus growth.  
AU Kaul, K. J.; Hoffman, S. A.  
CS (1) CRS Plant and Soil Science Research, Kentucky State University,  
Frankfort, KY 40601 USA  
SO Plant Science (Limerick), (1993) Vol. 33, No. 2, pp. 169-173.  
ISSN: 0168-9451.  
DT Article  
LA English

L6 ANSWER 30 OF 31 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1993:212024 S1 SIS  
DN PREV1993951123\*\*  
TI Effect of ammonium on glutamate synthetase activity in ectomycorrhizal  
fungi, and in mycorrhizal and non-mycorrhizal Scots pine seedlings.  
AU Sargala, Pytti  
CS Finn. For. Res. Inst., Parkano Res. Sta., SF-39700 Parkano Finland  
SO Tree Physiology, (1993) Vol. 12, No. 1, pp. 93-100.  
ISSN: 0829-189X.  
DT Article  
LA English

L6 ANSWER 31 OF 31 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1993:1973 S1 SIS  
DN PREV1993950089\*\*  
TI Effects of saline on foliage nitrogen metabolism of **Pinus taeda** L.  
and implications for carbohydrate metabolism.  
AU Manderscheid, R. J.; Jaeger, H.-J.; Press, D. W.  
CS (1) Institut für Pflanzenökologie, Heinrich-Buff-Ring 38, D-6300 Giessen  
Germany  
SO New Phytologist, (1992) Vol. 121, No. 4, pp. 623-633.  
ISSN: 0028-646X.  
DT Article  
LA English

L6 ANSWER 32 OF 31 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1993:65901 S1 SIS  
DN PREV199395032 S  
TI **Glutamine synthetase** in Scots pine seedlings and its  
control by blue light and light absorbed by phytochrome.  
AU Blümke, W. W.; Hehr, F. (1)  
CS (1) Biologische Inst. II der Univ., Schaenzlestrasse 1, W-7800 Freiburg i  
Br. Germany  
SO Planta (Heidelberg), (1992) Vol. 188, No. 3, pp. 396-402.  
ISSN: 0032-093X.  
DT Article  
LA English

=> d 16 10 14 11 17 24 25 32 ab

L6 ANSWER 10 OF 32 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AB The expression of a cytosolic **glutamine synthetase**

(GS1; EC 6.3.1.3) gene was examined in cotyledons of Scots pine seedlings. Light strongly stimulated GS1 mRNA accumulation during development. Similarly, steady-state levels of GS1 transcript increased in dark-grown seedlings to light and decreased in dark-adapted seedlings. Light/dark adaptation affected rbcS and nadb2 mRNA levels and chlorophyll contents in the same manner. Light-grown seedling, in the presence of the herbicide norflururon showed a drastic decrease in mRNA for GS and photosynthetic proteins, whereas the effect of the herbicide on mitochondrial ATPase-ATP synthase mRNA was limited. These results indicate that factors associated with developing callus explants could be required for maximal GS1 gene expression during seedling development. The level of GS polypeptide, determined by immunoblot, was co-regulated during seedling development in the light or dark. However, the levels of the polypeptide detected were unaltered by the light/dark adaptation treatments. The analysis of GS1 mRNA association with polysomes indicated that the discrepancies between GS protein and mRNA levels are not a result of a differential GS translational rate of the transcript in darkness relative to light. Two GS isoproteins with different isoelectric point were resolved by two-dimensional PAGE in light- and dark-germinated plants. The relative abundance of one of them was markedly affected by light and correlated with the observed changes in GS mRNA, suggesting that the other form is not a product derived from the maternal transcript. In situ hybridization of cotyledon sections showed the presence of GS1 mRNAs in mesophyll and palisade cells containing gene expression in photosynthetic tissues. High levels of transcript were detected also in meristematic cells of apical primordia. These data suggest a dual role for the GS1 gene associated with chloroplast development/activity and glutamine biosynthesis for nitrogen mobilization during early growth of Scots pine.

L6 ANSWER 14 OF 31 CAFLUS COPYRIGHT 1991 AGM  
AB Computer search algorithms for **Pinus taeda** cDNA sequences revealed that 20 of 41 **Pinus** cDNA sequences had homologous sequences in angiosperms, animals and/or other conifers. Ten of the 20 homologous sequences coded for highly conserved amino acid products among conifers, flowering plants and animals. Among the 10 homologous sequences, there were 14 highly conserved query sequences. These sequences code for DNA replication, RNA-binding protein, glycolysis and photosynthesis. A total of 14 plant species were identified with homologues to **P. taeda** cDNA sequences. Of these families, one family with homologues to **P. taeda** cDNA sequences. Of these families, one family of conifers and one family of monocots were represented in the matches to **P. taeda**. The remaining 12 families were dicots. Using nucleotide sequencing to infer evolutionary relationships among plants will improve as more plant genomic sequences drawn from a wider taxonomic spectrum are added to public databases.

L6 ANSWER 15 OF 31 BIOSIS COPYRIGHT 1991 BIOLOGICAL ABSTRACTS INC.  
AB In a previous work we reported the molecular characterization of a glutamine synthetase (GS; EC 6.3.1.2.1) complementary DNA from a woody plant (Carmon et al. 1990, *Plant Mol. Biol.* 22, 419-429). The isolated cDNA (pGSP114, encoding a Scots pine (*Pinus sylvestris*) cytosolic subunit, has been subcloned into the expression vector pET3c to overproduce the 67 kDa polypeptide in *Escherichia coli* cells. The recombinant GS protein showed the same molecular size as a native Scots pine GS subunit. Antibodies against the pET3c-GSP114 encoded protein were raised in rabbits by injecting purified preparations and specificity was determined by immunoprecipitation of GS activity present in pine crude extracts. In spite of the antibodies were able to recognize both cytosolic and chloroplastic GS in green tissues of pine seedlings and cytosolic GS was the unique recognized polypeptide. Unlike to that found in other plant species, cytosolic GS was strongly expressed in green tissues as determined by protein and Northern analysis. Our results suggest a key role for cytosolic GS in photosynthetic tissues of conifers.

AB The level of plastidic glutamine synthetase (GS; EC 6.3.1.5) in the cotyledonary whorl of the Scots pine (*Pinus sylvestris* L.) seedling was previously reported to be regulated by light. In the present paper we report on the sensitivity of light of the GS transcript promoter. A full-length GS cDNA clone of Scots pine was isolated (pGSSL), sequenced and expressed to measure the transcript levels. Using dichromatic light treatments it was found that the transcript level is regulated by phytochrome. The strong specific effect of blue light is to be attributed to an increase of the responsiveness of phytochrome. Since no direct correlation between the transcript level and the rate of GS protein synthesis was observed, it was concluded that GS gene expression is only coarsely regulated at the level of transcript accumulation. Synthesis of GS protein is by itself light-dependent (light-mediated fine tuning of gene expression). This control at the translational level is also exerted via phytochrome with blue light determining the responsiveness of the process toward phytochrome. If the level of the far-red absorbing form of phytochrome (Pfr) is kept very low, blue light is not capable of bringing about synthesis of GS protein.

AB Studies were carried out on the properties of glutamine synthetase and glutamate dehydrogenase occurring in the needles of Scots pine *Pinus sylvestris* L. from three various air-polluted locations (relatively unpolluted, moderately, and heavily polluted area). The enzymes were partially purified and characterized (Km value, pH optima, temperature dependence, Cu<sup>2+</sup> requirement). The glutamine synthetase activity from *P. sylvestris* grown in a polluted area is very diminished, on the other hand the glutamate dehydrogenase activity is slightly enhanced under such conditions. The enzymatic activities were correlated with the natural <sup>15</sup>N/<sup>14</sup>N isotope variations. The results are discussed with respect to the possible role of these enzymes in the nitrogen metabolism of conifers under different environmental stress conditions, particularly in terms of air pollution.

AB The appearance of glutamine synthetase (GS; EC 6.3.1.5) in response to light and nitrogen (NO-3-, NH-4+) was studied in the organs (roots, hypocotyl, cotyledonary whorl) of the Scots pine (*Pinus sylvestris* L.) seedling. Although GS activity was found to be mainly light induced in the whorl where it increased strongly in response to light, a significant GS synthesis was also detected in dark-grown seedlings. An ion-exchange chromatography was used to resolve two GS isoforms which appeared to be regulated differentially in the two GS isoforms (presumably plastidic GS2) which eluted at 50 mM KCl from the column at 50 mM KCl increasing drastically in response to light. The other isoform (presumably cytosolic GS1, which eluted at 200 mM KCl, was not stimulated by light but tended to disappear during the experimental period (4 to 12 d after sowing). Immunoblotting of pine extract yielded a prominent band with a molecular weight of 43 kDa. The extract yielded a prominent band with a molecular weight of 43 kDa. The increase in concentration between GS activity and immunoreactive GS protein could be extrapolated through time, showing that any increase of GS2 could be extrapolated to the de-novo synthesis of GS activity. Gel-filtration chromatography yielded a molecular mass for the GS holoenzyme of 340 kDa, a value which supports an octameric quaternary structure as previously suggested for angiosperms. While supplying seedlings with 10 mM NO-3- stimulated GS synthesis in the whorl by 11%, 11 mM NH-4+ caused an incipient ammonium toxicity. Experiments using dichromatic light (simultaneous treatment with two light beams to vary the level of the physiologically active form of phytochrome, Pfr, in blue light) revealed

that synthesis of GS2 was controlled by light in the same way as previously shown for ferredoxin-dependent glutamate synthase (Fd-GOGAT; EC 1.4.7.1). Up to 10 d after sowing the strong light effect could be attributed to phytochrome action whereas between 16 and 18 d after sowing phytochrome control of GS-synthesis failed if no blue/ultraviolet-A light was provided. The data show that blue light is required to maintain responsiveness of GS2 synthesis to phytochrome. Both enzymes, GS2 as well as Fd-GOGAT, appear to be regulated coordinately to meet the demands of ammonium assimilation.

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NEWS	14	Apr 09 NDB will be removed from STN
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NEWS	16	Apr 27 Records from IF.com available in CAPLUS, MCAPLUS, and ZCAPLUS
NEWS	17	Apr 30 BIOSIS Gene Names now available in TOXCENTER
NEWS	18	Apr 30 Federal Research in Progress (FEDRIP) now available
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= s glutamine(w) synthetase and pbm and 35s and nos and npt  
L1                    O GLUTAMINE(W) SYNTHETASE AND PBIN AND 35S AND NOS AND NPT

= s glutamine(w) synthetase and pbm and 35s and nos  
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= s glutamine(w) synthetase and pbm  
L4                    O GLUTAMINE(W) SYNTHETASE AND PBIN

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L5                    O GLUTAMINE(W) SYNTHETASE AND 35S AND NOS AND NPT

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L6                    O GLUTAMINE(W) SYNTHETASE AND TRANSFORM

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L7                    O GLUTAMINE(W) SYNTHETASE AND TRANSFORM AND PLANT

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L8                    O GLUTAMINE(W) SYNTHETASE AND TRANSFORM AND PLANT AND 35S

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L9                    O GLUTAMINE(W) SYNTHETASE AND TRANSFORM AND PLANT AND 35S AND NOS

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L10                  O GLUTAMINE(W) SYNTHETASE AND TRANSFORM AND PLANT AND 35S AND  
NOS AND PROBACTERIUM

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i10 ANSWER 1 OF 1 CPLUS © PYRIGHT 2002 ACS  
ID 1007130364 CPLUS

IN 132:162039

TI Poplar trees containing a constitutively expressed pine **glutamine synthetase** transgene for improved nitrogen metabolism

IN Kirby, Edward G.; Canovas Ramos, Francisco; Gallardo Alba, Fernando

PA Rutgers, the State University of New Jersey, USA

SO PCT Int. Appl., 50 pp.

CODEN: PIKKDJ

DT Patent

LA English

FAN,CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 1998-08267	A1	20000324	WO 1999-US18267	19990811
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CY, DE, DM, DM, FR, ES, FI, GB, GD, GE, GR, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LK, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NC, NZ, PL, PT, RO, RU, SI, SM, SG, SI, SK, SL, TC, TM, TR, TT, UA, UG, US, VE, VN, YU, ZA, ZW, AM, AZ, BY, KG, MG, MO, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, SW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SF, BJ, CF, CG, CI, TZ, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9957734	A1	20000305	AU 1998-57734	19990811
PTAI US 1998-96032P	P	1999-0811		
WO 1999-US18267	W	19990811		
RE.CNT 3	THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT			

=> d 19 1-2

L9 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS  
 AN 2000:13384 CAPLUS  
 DN 132:16261  
 TI **Transgenic plants containing a recombinatively expressed pine glutamine synthetase transgene for improved nitrogen metabolism**  
 IN Kirby, Edward G.; Cantvas Ratus, Francisco; Gallardo Alba, Fernando  
 PA Rutgers, the State University of New Jersey, USA  
 SO PCT Int. Appl., 50 pp.  
 CODEN: PIXXDE

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000018267	A1	20000324	WO 1999-US18267	19990811
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CY, DE, DM, DM, FR, ES, FI, GB, GD, GE, GR, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LK, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NC, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TC, TM, TR, TT, UA, UG, US, VE, VN, YU, ZA, ZW, AM, AZ, BY, KG, MG, MO, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SF, BJ, CF, CG, CI, TZ, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9957734	A1	20000305	AU 1998-57734	19990811
PTAI US 1998-96032P	P	1999-0811		
WO 1999-US18267	W	19990811		
RE.CNT 3	THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT			

L9 ANSWER 2 OF 1 CAPLUS COPYRIGHT 2002 ACS

AN 1997:568138 CAPLUS

DN 127:215963

TI **Transgenic plants engineered for improved nitrogen metabolism/assimilation using vectors containing inducible promoters for recombinant expression of enzymes**  
 IN Good, Allen G.; Stroehner, Virginia L.; Muench, Douglas G.  
 PA Governors of the University of Alberta, Can.; Good, Allen G.; Stroehner,  
 Virginia L.; Muench, Douglas G.  
 SO PCT Int. Appl., 44 pp.

CODEN: PIXXDE

DT Patent

LA English

## FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9730163	A1	19970221	WO 1997-CA100	19970214
W: AL, AM, AT, AU, AR, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KR, FR, KZ, LC, LT, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RU, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AU, AT, BY, KG, KM, MD, RU, TJ, TM				
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CA 2169572	A1	19970415	CA 1996-2169502	19960214
US 6084723	A	20000404	US 1996-599968	19960214
AU 9715663	A1	19970402	AU 1997-15868	19970214
AU 727294	B1	20010107		
GB 2325132	A1	19981113	GB 1998-17304	19970214
GB 2325133	B1	20010112		
GB 2349366	A1	20000115	GB 2000-23359	19970214
PEAT CA 1996-2169502	A	19960214		
US 1996-599968	A2	19960214		
GB 1998-17304	A3	19970214		
WO 1997-CA100	W	19970214		

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- NPS
- NPI
- L&M AND NPT

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Most journals now expect that DNA and amino acid sequences that appear in articles will be submitted to a sequence database before publication. Soon after submission, you will receive an accession number from the database which you will be able to use in your article to refer to the sequence. Please be aware that it is only necessary to submit the sequence to one database, whichever one is most convenient, without regard for where the sequence may be published. Data exchange between GenBank, EMBL and DDBJ occurs daily. Sequence data submitted in advance of publication can be kept confidential if requested.

Below are described various ways of submitting DNA sequences to GenBank. Essentially, there are two principal ways, BankIt and Sequin. BankIt is a Web submission tool and recommended for simple submissions. With BankIt you can indicate coding regions on an mRNA along with a product and gene name. For more control over annotating your entry, segmented records, or very long entries, Sequin, a stand-alone

submission tool, is suggested.

GenBank will provide you with an accession number to identify your sequence, usually within two working days, if the submission is received via electronic mail. This accession number serves as confirmation that you have submitted your data, and allows the community to retrieve the data upon reading the journal article.

The accession number should be included in your manuscript, preferably in a footnote on the first page of the article, or as required by individual journal procedures.

#### ► **BankIt - submitting via the WWW**

NCBI has developed a WWW form, called BankIt, for convenient and quick submission of sequence data.

BankIt allows you to enter sequence information into a form, edit as necessary, and add biological annotation (e.g., coding regions, mRNA features). BankIt transforms your data into GenBank format for your review and when your record is completed, it can be submitted directly to GenBank. You have the option of adding information by using text boxes to describe in your own words the source of the sequence and its biological features. The GenBank annotation staff reviews the submitted textual information, incorporates it into the appropriate structured fields, and returns the record by e-mail for your review.

BankIt is compatible with Netscape clients for Unix, Macs, and PCs. In addition, Internet Explorer for the PC and Mac have successfully been used.

#### ► **Sequin - stand-alone software for the Mac, PC/Windows, and UNIX**

If you do not have access to the WWW, NCBI introduces a stand-alone submission program called Sequin.

Sequin is an interactive, graphically-oriented program based on screen forms and controlled vocabularies that guides you through the process of entering your sequence and providing biological and bibliographic annotation. Sequin is designed to simplify the sequence submission process and to provide graphical viewing and editing options. It incorporates robust error checking and accommodates very long sequences and complex annotations.

#### ► **Special submissions - genomes, batch sequences, alignments**

Sequin can be used for the submission of individual or small numbers of sequences. However, it was also designed to facilitate special types of submissions, and should be used

instead of BankIt for the following types of submissions: genomes and other very long sequences; multiple sequences such as batch submissions and segmented sets; and population/phylogenetic/mutation studies.

When preparing the submission of a genome, you can import the complete genome sequence into Sequin as well as a file containing the amino acid translations in FASTA format, if available. Sequin will automatically annotate the coding regions intervals based on the translations, and you can use Sequin to make further complex annotations. Sequin can also accept feature annotations in tab-delineated tables. Since the final submission file (\*.sqn) will be quite large, please send it to the GenBank staff via FTP rather than by e-mail. To request a temporary FTP directory, please contact genomes@ncbi.nlm.nih.gov.

When preparing a submission that contains multiple sequences, you can import a single file containing all the sequences in FASTA format, or as alignments in FASTA+GAP, PHYLIP, or NEXUS format. In addition, for population/phylogenetic/mutation studies, you can annotate one sequence and propagate the features onto the other sequences. When you complete the submission and select the 'prepare submission' option in the 'File' menu, Sequin will prepare a single \*.sqn file that contains all the sequences. Send the \*.sqn file by e-mail to:

gb-sub@ncbi.nlm.nih.gov .

If you are submitting two or more Sequin files, each of which contains multiple sequences, send each \*.sqn file in a separate e-mail message.

Please refer to the Sequin Quick Guide and documentation for additional information, both of which are accessible from the Sequin Web page.

## ► Sending the Data to GenBank

When using BankIt, the prepared sequence entries are submitted directly to GenBank through the WWW.

When using Sequin, the output files for direct submission should be sent to GenBank by electronic mail to:

gb-sub@ncbi.nlm.nih.gov

As an alternative, the submission file can be copied to floppy disk and mailed to GenBank Submissions at:

GenBank Submissions  
National Center for Biotechnology Information  
National Library of Medicine

Bldg. 38A, Room 8N-803  
Bethesda, MD 20894

Please label the disk with your name and file name and indicate whether it is a PC or MAC disk.

#### ► Updates

NCBI processes update requests as well as new submissions. You can provide additional annotation, correct errors or omissions, or request the release of your "hold-until-published" record. BankIt or Sequin may be used for updates, or you can request changes as text in the body of an e-mail message. Be sure to give the accession number of the sequence to be updated along with all update information. Send it to:

update@ncbi.nlm.nih.gov

Submitters of a record maintain editorial control of that record. Any third party update information will be forwarded to the submitters of the record for review. Changes will be made to the record only at the submitters' request. If submitters can no longer be contacted, GenBank reserves the right to edit an entry to agree with the information presented in the original publication(s) cited in the entry.

#### ► Submission of ESTs, STSs and GSSs

Batches of ESTs (expressed sequence tags), STSs (sequence tagged sites), and GSSs (genome survey sequences) can be submitted via special streamlined procedures.

#### ► Submission of HTGS Records

The NCBI has developed a protocol for high throughput genome sequencing centers to use when they submit large genomic records (usually Cosmids or BACs). Specialized tools, including fa2htgs and a "genome center version" of Sequin, have been created to help such centers produce these submission files in a convenient way. The HTG page not only provides detailed submission instructions to genome centers, but also informs GenBank users how to access the HTG sequences.

#### ► Confidentiality

Some authors are concerned that the appearance of their data in GenBank prior to publication will compromise their work. GenBank will, upon request, withhold release of new submissions for a specified period of time. However, if a paper

citing the sequence or accession number is published prior to the specified date, your sequence will be released upon publication.

In order to prevent the delay in the appearance of published sequence data, we urge authors to inform us of the appearance of the published data. As soon as it is available, please send the full publication data--all authors, title, journal, volume, pages and date--to the following address:

[update@ncbi.nlm.nih.gov](mailto:update@ncbi.nlm.nih.gov)

#### ► **Submission of SNPs and other polymorphism data**

Data on genetic variation in humans and other organisms can be submitted to the NCBI Database of Single Nucleotide Polymorphisms (dbSNP). Entries include single nucleotide polymorphisms (SNPs), small-scale insertion/deletions, polymorphic repetitive elements, and microsatellite variation. dbSNP is a separate resource from the GenBank database, and submissions do not receive GenBank accessions as noted above. However, dbSNP entries do receive dbSNP identifiers and contain links to associated GenBank records. Further information about submitting data is accessible from the sidebar of the dbSNP home page.

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